

WP Corp Products

for the Amiga®

Printing Guide

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■ Introduction

The aim of this manual is to enable you to accomplish your printing goals—be they simple or complex. Whether you just want to print a document or need to produce special effects, the WordPerfect printing programs and the instructions given in this manual will allow you to take full advantage of your printer's capabilities.

The *Printing Guide* is divided into six sections which provide the following information:

Getting Started

Gives you basic information about the Print program, which is a program that serves as a manager of the printing process.

Print Program

Gives you more in-depth information about all of the features available through the Print program.

Printdef Program

Contains instructions for using the Printdef program. The Printdef program allows you to write or modify printer definitions when you have special needs.

Printer Test Files

Provides instructions on how to use the various test files on the Print diskette to test your printer's capabilities and printer definitions you have created or modified.

Appendix A: Special Codes

Contains a list of special codes that can be used in the Printdef program.

Index

Provides a complete index to the programs and features described in this *Printing Guide*.

All the programs and files necessary to print with any WordPerfect product for the Amiga are contained on the Print diskette included in this package. The Print diskette is the same no matter which WordPerfect product for the Amiga you purchase, and the concepts and processes explained in this manual are likewise the same for every WordPerfect Amiga product. (However, from time to time WordPerfect Corporation updates the Print diskette and the *Printing Guide*. You should always use the most recent diskette and instructions.)

One word of caution: WordPerfect Corporation software is designed to allow you maximum flexibility in producing printed output. However, each printer is created by its manufacturer with certain capabilities and limitations. There are many features allowed by WordPerfect Corporation software which a given printer may not be able to produce because its designers did not give it that capability.

In most cases, printing is a simple matter. If you do have trouble producing the results you want, thoroughly investigate this manual. Then call WordPerfect's Customer Support department if you need more information (see *Customer Support* in these introductory pages).

■ Customer Support

The WordPerfect printing programs are backed by a customer support system designed to offer you fast, courteous service. If you need assistance beyond what this manual, the Help feature, and your dealer can provide, follow these steps:

- 1** Try to duplicate the problem, keystroke by keystroke, to see exactly what was done.
- 2** Be at the computer and call customer support.

Before you send the customer registration card that came with this package, copy the license number from the card into the space provided below for reference in case the number is requested by customer support.

If you are within the continental United States or Hawaii, toll-free support is available by dialing:

(800) 321-3204

If you are in an area where the phone system does not handle toll-free numbers, you can access customer support by dialing:

(801) 226-4147

You will be charged by the phone company for the call if you use the 801 number.

Once you dial the support number, an Automated Attendant helps you reach the support group you need. If your question does not fall under any of the categories listed by the Automated Attendant (or if you don't have a touch-tone phone), simply stay on the line after listening to the message and an operator will be with you shortly.

The customer support department takes calls from 7:00 a.m. to 6:00 p.m. Mountain Time.

WordPerfect's customer support staff will do all it can to assist you. However, they may not have a manual for your printer, and therefore may not be able to look up codes for you. The staff is happy to give suggestions and limited assistance to those who want to write their own printer definitions, but they are not able to walk you through the process or write it for you.

Some printers are not supported by WordPerfect Corporation. Any printer that does not appear on the list of printers (when you select printers) is not supported. You may still be able to use that printer if it emulates another one on the list. The customer support staff can tell you of known emulations.

WordPerfect Corporation provides limited support for printers on the list which are marked with an asterisk (*). *Limited support* means that WordPerfect Corporation does not have that printer in-house. The definitions for such printers were written using the manuals provided by the manufacturer, but have not been tested and are not guaranteed to work.

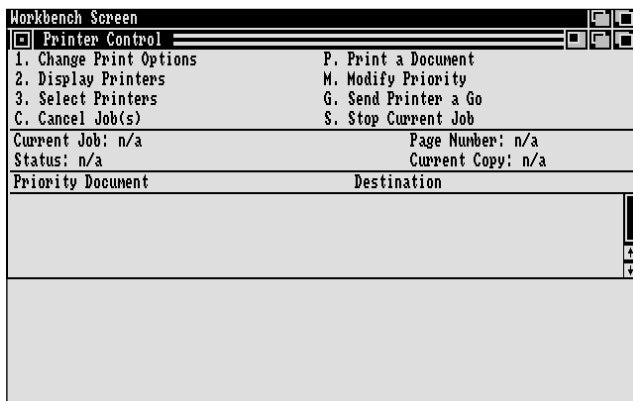
_____ License Number



■ Introduction

The Print program included on your Print diskette is the same Print program used with all WordPerfect Corporation software for the Amiga. It has two basic functions: First, it is the mechanism through which you select printers. Second, it serves as the manager of the printing process.

All interaction with the Print program occurs through the Printer Control window.



From the Printer Control window, you choose options which enable you to select printers or to control the printing of files. You should have selected printers when you installed a WordPerfect product on your computer. (For more information about selecting printers, see *Print Program*.)

■ Starting Print

There are three ways to start the Print program: from the Workbench, from the CLI, or from inside a WordPerfect Corporation program. For most files, you can use any of these methods to start the Print program. However, some programs offer special printing features which require that you send the file to Print from within the program that created the file. For example, in the Notebook program of WordPerfect Library™, you can print records, or a list of records. In PlanPerfect, worksheets must be printed from the print options in PlanPerfect. These files do not print correctly if they are printed directly from Printer Control (or the CLI). For more information on printing with these special features, see *Printing* in the Reference section for the appropriate program.

■ From the Workbench

You can start the Print program directly from the Workbench (no other program has to be running).

With the Print disk icon open,

- 1 Double-click on the Print icon.

The Printer Control window is brought in front of any other windows, but is not active.

- 2 Click on the Title Bar of the window to activate it.

You can also queue up print jobs as you start the Print program from the Workbench. (Remember that some files must be printed from the program which created them. They will not print correctly if you print them this way.)

- 1 Point to a file icon, hold down **Shift**, then click on the icon to select it.
- 2 Repeat step 1 to select as many files as you want.

- 3 Point to the Print program icon, hold down **Shift**, then double-click on the Print program icon.

The Print program is started, the Printer Control window is opened and brought in front of any other windows, and the first file you selected is automatically sent to the printer. Any other files you may have selected are placed in the Job List in the order they were selected.

■ From the CLI

You can also start the Print program from the CLI (no other program has to be running).

From a CLI prompt,

- 1 Enter **CD Print:** to change to the Print directory, then enter **print** to start the Print program.

The Printer Control window is activated and brought in front of any other windows.

You can also queue up a print job as you start the Print program from the CLI. (Remember that some files must be printed from the program which created them. They will not print correctly if you print them this way.)

- 1 Enter **print *filename*** (where *filename* represents the name of a file).

The Print program is started, the Printer Control window is opened and brought in front of any other windows, and the file you entered is automatically sent to the printer.

■ From Within a Program

See *Printing* in the Reference section of the user manual for the appropriate program.

■ Printing a File (Document)

The Print a Document option on the Printer Control menu prints a file on your disk. Some files, such as WordPerfect Library Calendar files, must be printed through the program that produced the file in order to print correctly. See *Printing* in the user manual for the applicable program for more information. WordPerfect® word-processed files, text files and README files are examples of files that can be printed directly from Printer Control using this option.

From the Printer Control window,

1 Select **Print a Document (P)**.

“Print what file?” appears in a requester.

2 Enter the name of the file you want to print.

If the file is not located in the default drive or directory, be sure to include the full pathname.

A requester asks if you want to print all pages of the file.

3 Type **y** if you want to print the entire file.

or

Type **n** if you want to print a range of pages, then enter the page number to start and end printing in the requesters.

When you print a range of pages, the Print program counts the number of pages from the beginning until the starting page number you enter. If you have used a New Page Number code to change the starting page number in a document, the code is ignored by the Print program when printing a range of pages. For example, if you have a 6-page document which starts on page 10, to print pages 13 and 14 of the document you must enter 4 as the starting page number and 5 as the ending page number.

The job appears in the Job List and begins to print.

Using the mouse:

Click on **Print a Document**.

Type the name and click on **Accept**.

Click on **Yes**.

Click on **No** and enter the page numbers.

■ Exiting Print

Because the Print program is a separate task in the Amiga operating system, you cannot exit it or close the Printer Control window until all printing is complete. You can, however, click on the Back gadget to place the Printer Control window behind other windows so that you can continue working with another task while printing is in progress. Once the window you want is displayed, click on the Title Bar to activate it.

You can also use the Zoom gadget like the Back gadget to move the Printer Control window out of the way during the printing process. The Zoom gadget shrinks the Print Control window to a very small size so that it is out of the way, yet accessible for additional interaction with the Printer Control window.

A ZOOM GADGET



To shrink or enlarge the Printer Control window with the Zoom gadget,

- 1 Click on the Zoom gadget.

Once printing is complete and there are no more print jobs in the Job List, you can exit the Print program.

- 1 Press **Exit** (F7).

Using the mouse:

Click on the Close gadget.



■ Introduction

The Print program has two basic functions: First, it is the mechanism through which you select printers. Second, it serves as the manager of the printing process. Each of these functions is discussed in more detail below.

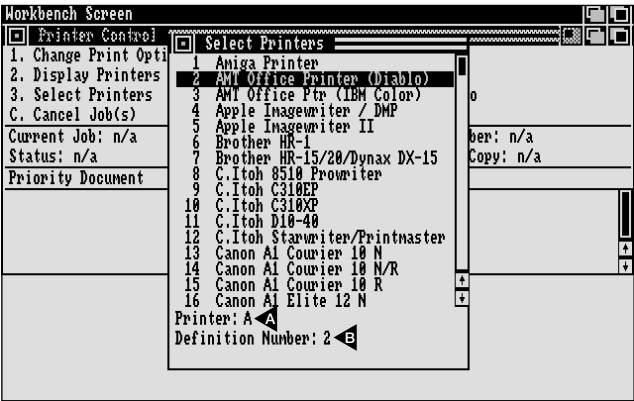
Printing is the process of transforming the text and images on your screen to paper. For this to happen, your software needs to be able to communicate with your printer.

The Print program directs the communication between the software and the printer. The interface that is used is known as a printer definition or printer driver. Since each printer uses and understands different codes and information, WordPerfect Corporation has supplied individual drivers for the different printers. These drivers act as a translator between your software and your printer. For example, if the software gives instructions to bold a word, the printer definition takes that information and translates it into instructions that your printer can understand.

The Print program will allow you to select up to six printer definitions (A through F) at one time.

Here is what appears on your screen when you select a printer:

- A PRINTER LETTER
- B PRINTER DEFINITION NUMBER



This selection tells the Print program that when you print to printer A, it should use the AMT Office Printer (Diablo) printer definition for translation.

When you print a file, the Print program takes the file and puts it in a queue of files waiting to be printed (where they are now called *print jobs*). When its turn comes, Print translates the file and sends it to the printer. During this process, Print monitors the state of the printer, file, disk, and computer. It displays messages to let you know how the process is going.

The options at the top of the window allow you to communicate with the Print program and tell it what you want it to do.

Option 3 is the one through which you select printers. You can review the printer selections you have made by choosing the Display Printers option (2). The rest of the options on the list relate directly to the management of the files you print.

Before you print a file you can choose Change Print Options (1) to specify the printer to which it should send the file (and consequently, which printer definition to use), the number of copies to print, and the binding width to use. Through Option P you tell the Print program which file you want to print.

Options C, M, S, and G control the flow of jobs in the queue. With them you can cancel a job, modify the position of a job in the queue, stop the current job, or resume printing after it has been stopped.

Because the Print program is a separate task in the Amiga operating system, you cannot exit it or close the Printer Control window until all printing is complete. You can, however, click on the Back gadget to place the Printer Control window behind any other windows (or click on the Zoom gadget to reduce the window) so you can continue working in other programs while printing is in progress.

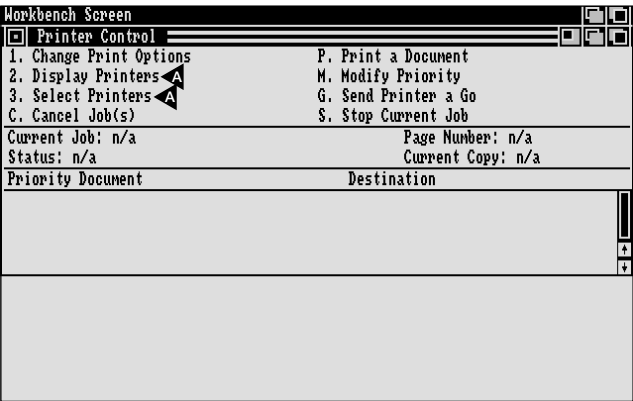
■ Selecting Printers

You only need to select printers the first time you install a WordPerfect Corporation software product, or if you add a new printer later or decide to change the selections you have made. However, you may want to reselect printers each time you install a new WordPerfect Corporation product because sometimes the programs on the Print diskette have been updated. You should always use the most recent Print diskette.

When you select printers, you are asked for the destination for print jobs sent to each printer, the type of forms used, and the default setting for number of copies and binding width. Almost every option you specify while selecting printers can be temporarily changed through other options on the Printer Control menu when you actually print files. The options specified while selecting printers should reflect what you NORMALLY want to happen when you print to that printer.

The options on the Printer Control window which pertain to selecting printers are Select Printers (3) and Display Printers (2).

▲ SELECT PRINTERS OPTIONS



You can select as many as six different printers. Then, before you print, you can use Change Print Options on the Printer Control menu to indicate which of the six printers you want to use. For example, if you have selected both the HP LaserJet and the AMT Office Printer, you will need to indicate which printer you are printing to because these two printers do not understand the same language. To print correctly, they must have the instructions for the driver that was specifically written for them. Even if you have only one printer, you may want to set up several definitions—one for continuous forms, one for single sheet forms, etc. (See *Printdef Program* for more information.)

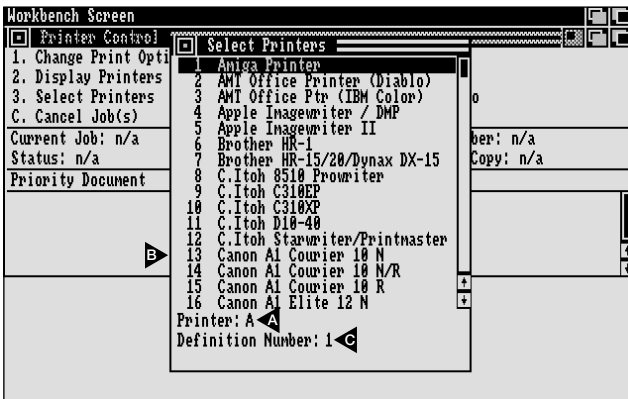
From the Printer Control window, to select printers,

- 1 Select Select Printers (3) to display the Select Printers window.

- A** PRINTER LETTER
- B** PRINTER DEFINITION LIST
- C** PRINTER DEFINITION NUMBER

Using the mouse:

Click on **Select Printers**.



The alphabetical list includes the current printer definitions supported by WordPerfect Corporation. The printer letter appears at the bottom of the list.

*If you have already selected printers and at that time chose to copy your selections to small files, only the printer definitions you selected appear in the list. If you need to see the entire list of printers, press Page Down. You will then have to reselect all printers. Type **y** or click on Yes when the requester asks you if you want to do this, or type **n** or click on No if you don't want to reselect printers.*

When you first enter the Printer Definition list, the printer letter is A. Printer A is the default printer, which means that when you don't specify which printer to print to, printer A is used. Select the printer you use most often as printer A.

- 2** Use **Left Arrow** (←) and **Right Arrow** (→) to move from printer letter to printer letter (A through F).

When you stop at the printer letter for which you want to choose a definition,

- 3** Use **Up Arrow** (↑) and **Down Arrow** (↓) to move through the list until the correct printer definition is highlighted, then press **Return**.

You are then asked to select a destination type. Selecting Printer (1) tells Print to use a combination of the Preferences driver and Print's driver. If you wish to use a Preferences driver, you should select Amiga Printer in the Print program. In this case the port is also determined by Amiga Preferences.

Using the mouse:

Click on the upper or lower part of the printer letter to move forward or backward, respectively.

Use the Scroll Bar to move through the list, then click on the correct printer definition.

Selecting Device or File (2) allows you to print to one of the Amiga ports or to a file on disk. A requester appears asking you to enter the name of the device or file. If you want to send your file to a device using only Print's driver, specify the device or port you are using. For example, if your printer is using the parallel port, type par:. If your printer is using the serial port, type ser:. If you want to print to a file on disk, enter the path and filename. Printer F is predefined as a DOS Text Printer and will print a file to disk with the filename TEXT.PRT unless you redefine it.

Remember that the options you choose during printer selection are the *default* settings. Therefore, if you nearly always want files sent to a file (or device) when you print to this printer letter, then select Device or File (2). Otherwise, select Printer (1).

4 Select Printer (1).

or

Select Device or File (2), then enter the name of the device or file at the requester.

Next you must specify the type of forms used with this printer: Continuous, Hand-fed, or Sheet Feeder. If you are not sure which type your printer uses, see *Paper Feeding* under *Basic Terminology* in the *Printdef Program* section for an explanation of paper feed methods.

5 Select the option for the type of forms used in your printer.

If you select Sheet Feeder (3), additional settings and the type of sheet feeder are requested. Use the initial settings, then try printing. If there are problems, use the Select Printers option again to adjust the settings.

Using the mouse:

Click on **Printer**.

Click on **Device or File**, then type the name and click on **Accept**.

Click on an *Option*.

If there is not a selection listed for your sheet feeder, try selecting Continuous. This option works for the majority of sheet feeders. If that still doesn't produce the results you want, use the Printdef program to enter the control codes for ejecting a page, selecting bins, and inserting a sheet. (See *Printdef Program* for details.) These codes can be found in your sheet feeder manual.

Once you have selected the type of forms, "Number of copies to print:" appears in a requester. Remember that the number you enter here should be the number of copies you *normally* want to print when you use this printer.

- 6** Enter the number of copies for this printer (maximum = 255).

"Binding width:" then appears in a requester. The binding width is the distance (in characters—10 per inch) you want text shifted right on odd-numbered pages and left on even-numbered pages to allow room on two-sided copies for holes or other bindings. (On one-sided copies you should just increase the left margin in the file. See the manual for the software product which produced the file.) Remember, the number you enter here should be the *normal* binding width for this printer.

- 7** Enter the binding width for this printer.
For example, to increase the binding width by ½ inch enter 5.

"Save this definition?" appears in a requester.

- 8** Type **y** to save the printer definition.

You are returned to the Select Printers window. The printer letter has advanced by one. You may repeat the above steps to select as many as 6 printers (A through F).

- 9** Press **Exit** (F7) to leave the Select Printers window.

Using the mouse:

Type the number and click on **Accept**.

Type the number and click on **Accept**.

Click on **Yes**.

Click on the Close gadget in the Select Printers window.

“Do you want to copy your printer selections to small files?” appears in a requester. If you say *yes*, the printer definitions you selected are copied to a separate file. Then if you need to select printers again, only the definitions you selected will appear in the list. (The entire list is still accessible by pressing Page Down, but you will have to reselect all your printer definitions if you do that.) Copying the definitions to small files saves room on your disk if you do not have a hard drive. You can put the small files on your system disk and avoid having to insert the Print disk each time you want to print. If you say *no* at this requester, the next time you select printers the entire list of definitions will appear.

10 Type **y** or **n**.

■ Display Printers

The Display Printers option displays information about selected printers. For more information on using this option, see *Printing Files (Documents)* in *Print Program*.

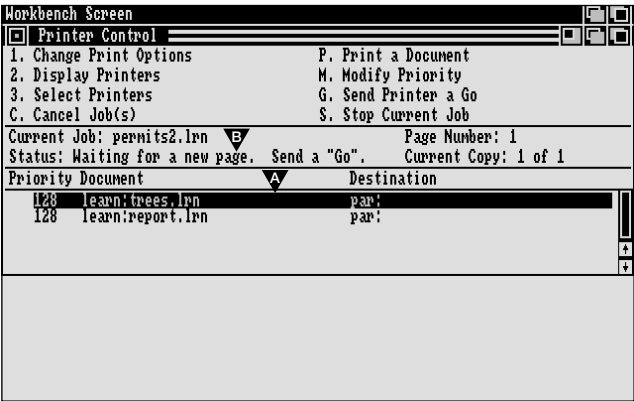
Using the mouse:

Click on **Yes** or **No**.

■ Printing Files (Documents)

The options in the Printer Control window let you control the printing of your files or documents. The window also displays information about the current print job (the file currently printing). Messages and requesters appear from time to time to let you know the status of the job and assist you in solving most printing problems.

- A JOB LIST
- B STATUS MESSAGE



The Print program lets you send more than one print job to the printer at a time. The jobs that are not currently printing are lined up in the Job List (in the order they are sent). You can highlight specific jobs using Up Arrow (↑) or Down Arrow (↓), or by using the Scroll Bar to the right of the Job List. You can display the print information (e.g., binding width, destination) for any job by highlighting the job, then pressing Return.

Using the mouse:

Double-click on the job.

You can cancel, hold, or modify the order of a job by highlighting the job, and then selecting an option on the Printer Control menu. Detailed instructions for each option on the Printer Control menu are provided below.

■ Change Print Options

This option changes the printer letter (the printer to which you want to send the job), the destination (Printer, Device or File) of print jobs, the number of copies to be printed, and/or the binding width for the job. The printer letter designates one of the six printer definitions you selected when you installed the Print program (or when you last used the Select Printers option).

The destination of the print job can be either a printer or a device or file. You are then asked to select a destination type. Selecting Printer (1) tells Print to use a combination of the Preferences driver and Print's driver. If you wish to use a Preferences driver, you should select Amiga Printer in the Print program. In this case the port is also determined by Amiga Preferences.

Selecting Device or File (2) allows you to print to one of the Amiga ports or to a file on disk. A requester appears asking you to enter the name of the device or file. If you want to send your file to a device using only Print's driver, specify the device or port you are using. For example, if your printer is using the parallel port, type par:. If your printer is using the serial port, type ser:. If you want to print to a file on disk, enter the path and filename.

Changing any of these options (except printer letter) affects only the next print job you send. Changing the printer letter remains in effect until you exit the Print program (close the Printer Control window) or change it again with this menu option. If you want to permanently change these options, see *Select Printers in Print Program*.

From the Printer Control window, to change a printing option,

- 1** Select Change Print Options (1).
- 2** Select Printer Letter (1), Destination (2), Number of Copies (3), or Binding Width (4).
- 3** If you selected Printer Letter, enter the letter of your selection.

or

If you selected Number of Copies or Binding Width, enter the new information at the requester.

or

If you selected Destination, select Printer (1), or select Device or File (2) and enter the device or filename at the requester.

Binding Width is calculated at 10 characters per inch. So, if you want a 1/2-inch binding width, you would enter 5.

■ Display Printers

This option displays information about the printer you currently have selected. You cannot change any of the information displayed. To make a change in a printer selection you must select printers again. See *Selecting Printers* in *Print Program* for more information. To make changes in the fonts available for any printer, you must use the Printdef program included on the Print diskette. See *Printdef Program* for details. If you are printing a WordPerfect document, use the Pitch and Font Change features. (See your WordPerfect manual.)

Using the mouse:

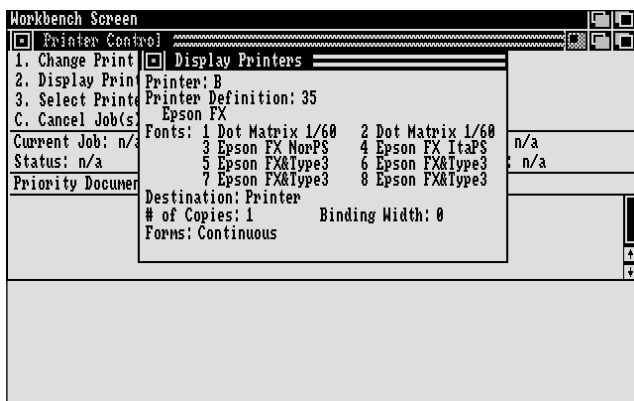
*Click on **Change Print Options**.*

*Click on **Printer Letter, Destination, Number of Copies, or Binding Width**.*

*Type the information and click on **Accept**.*

From the Printer Control window,

1 Select Display Printers (2).



A window opens displaying information about printer A, including all eight fonts available on it. You can display the information for any of the other five printers by pressing Left Arrow (←) or Right Arrow (→).

When you are finished using the Display Printers option,

2 Press **Exit** (F7) or **Cancel** (F1) to return to the Printer Control window.

■ Select Printers

This option is used only to select printers. See *Selecting Printers* in *Print Program* for more information. You should not use this option to make temporary changes such as which printer to use for a job, the number of copies to be printed, the binding width or the destination of the job. For these changes, see *Change Print Options* above.

Using the mouse:

Click on **Display Printers**.

Click on the upper or lower half of the printer letter.

Click on the Close gadget in the window.

■ **Cancel Job(s)**

The Cancel Job(s) option on the Printer Control menu lets you cancel any or all print jobs.

From the Printer Control window,

- 1** Select Cancel Job(s) (C) to display the Cancel menu.
- 2** Select Current Job (1), Job at Cursor (2), or All Jobs (3).

Current Job (1) cancels the print job that is currently printing. Job at Cursor (2) cancels the job that is highlighted by the cursor in the Job List, and All Jobs (3) cancels all the jobs in the list.

- 3** Type y to confirm the cancellation.

If you selected All Jobs (3), you will also be asked if you want to cancel the current print job.

■ **Print a Document**

This option on the Printer Control menu prints a file on your disk. Some files, such as WordPerfect Library Calendar files, must be printed through the program that produced the file in order to print correctly. See *Printing* in the user manual for the applicable program for more information. WordPerfect word processed files, DOS text files and README files are examples of files that can be printed directly from Printer Control using this option.

From the Printer Control window,

- 1** Select Print a Document (P).

“Print what file?” appears in a requester.

- 2** Enter the name of the file you want to print.

If the file is not located in the default drive or directory, be sure to include the full pathname.

Using the mouse:

*Click on **Cancel Jobs(s)**.*

*Click on **Current Job**, **Job at Cursor**, or **All Jobs**.*

*Click on **Yes**.*

*Click on **Print a Document**.*

*Type the name and click on **Accept**.*

A requester asks if you want to print all pages of the file.

3 Type **y** if you want to print the entire file.

or

Type **n** if you want to print a range of pages, then enter the page number to start and end printing in the requesters.

When you print a range of pages, the Print program counts the number of pages from the beginning until the starting page number you enter. If you have used a New Page Number code to change the starting page number in a document, the code is ignored by the Print program when printing a range of pages. For example, if you have a 6-page document which starts on page 10, to print pages 13 and 14 of the document, you must enter 4 as the starting page number and 5 as the ending page number.

The job appears on the Job List and begins to print.

■ **Modify Priority**

You can send more than one print job to the printer at a time. When you send multiple jobs, each job is stored in the Job List in the order that it was sent.

The Job List can hold several jobs in queue (up to 32Kb—limited only by available memory). A print job with a priority of 1 prints first; a priority of 255 prints last.

The Modify Priority option on the Printer Control menu lets you change the priority of a file in the Job List.

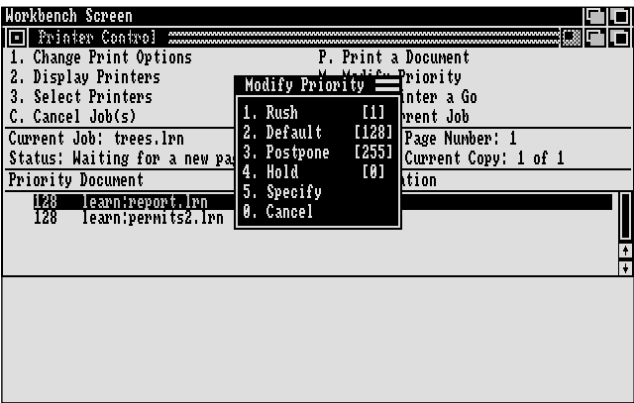
Using the mouse:

Click on **Yes**.

Click on **No** and enter the page numbers.

From the Printer Control window,

- 1 Use the arrow keys to highlight a job in the Job List.
- 2 Select Modify Priority (M) to display the Modify Priority menu.



- 3 Select an option on the Modify Priority menu.

A description of each option on the Modify Priority menu follows.

Rush

Changes the priority of the highlighted job to 1, forcing it to the beginning of the list. A job currently printing will finish before the rush job begins printing.

Default

Changes the priority of the highlighted job to a default of 128. This job will not print until after all jobs with a priority number smaller than 128 have been printed. You can give several jobs this priority at one time. Each default job will be printed in the order it was given this priority.

Using the mouse:

Use the Scroll Bar to highlight a job, or click on the job.

Click on **Modify Priority**.

Click on an option.

Postpone

Changes the priority of the highlighted job to 255, placing it at the end of the Job List.

Hold

Changes the priority of the highlighted job to 0 (zero). The job will wait in the list until all other jobs have been sent. When all other jobs have printed, the held job will be placed in the print queue, but will not start printing until you select Send Printer a Go (G) to print the job.

You can place more than one job on hold at a time. Each held job will be placed in the print queue in the order in which it was entered.

Specify

Changes the priority for the highlighted job to any number you choose (between 0 and 255). When you select this option, a requester appears in which you can enter the new job priority number.

■ **Send Printer a Go**

This option on the Printer Control menu restarts the printer after it has been stopped for hand-fed forms or font changes, or by the Stop Current Job option or the Hold option.

From the Printer Control window,

- 1 Select Send Printer a Go (G).

After a moment, printing resumes.

■ **Stop Current Job**

The Stop Current Job option lets you stop the printing before the print job is completed. Reasons for stopping a print job en route might be a paper jam, incorrect margins or pitch in a document, etc.

Using the mouse:

Click on **Send Printer a Go**.

From the Printer Control window, to stop printing the current job,

- 1 Select Stop Current Job (S) to stop the printer.

If you need to start the printing over (be sure the job is on screen or on disk), or you just want to cancel the print job, select Cancel Job(s) (C). This option stops the printing, cancels the print job, and advances the next sheet of paper to the top-of-form where possible.

If your printer has a buffer (a *waiting room* for text to be printed), printing will not stop until the buffer is empty. The Print program has no control over text after it has been sent to the printer. Switching off the printer empties the buffer. Some printers have a “reset” button which empties the buffer.

Be aware that buffers may contain more than one print job and that once a print job has been completely sent to the printer, the Print program deletes it from the Job List. This means that if you switch off the printer with a file in the buffer that is not on your screen or has not been saved, it is lost.

To resume printing the job,

- 1 Make any necessary adjustments to what you are printing.
- 2 Advance the paper to the top of the next page if necessary.
- 3 Return to the Printer Control menu if you are not already there.
- 4 Select Send Printer a Go (G) to restart printing.

Printing is restarted at the beginning of the file.

Using the mouse:

Click on **Stop Current Job**.

Click on **Send Printer a Go**.

■ Printing to Disk

The Print program lets you output a file to your disk in a *printer* or *text* format. The file will contain all the characters and codes which ordinarily would have been sent to the printer you selected.

There are three ways to print to disk:

- Print to a file prepared for a DOS text printer.
- Print to a file prepared for one of your six selected printers.
- Define a printer to always print to disk when it is used, and in the format appropriate for that printer.

■ DOS Text Printer

Printer F is predefined as a DOS text printer unless you change it through the Select Printers option. Printing a file to printer F will delete all codes except Carriage Returns (CR) and Line Feeds (LF) and will name the file TEXT.PRT.

■ One of Your Selected Printers

To create print files for one of your selected printers, you must specify the name of the printer and file through Change Print Options on the Printer Control menu.

From the Printer Control menu,

- 1 Select Change Print Options (1).
- 2 Select Printer Letter (1), then select the printer you want.
- 3 Select Change Print Options (1) again, then select Destination (2).

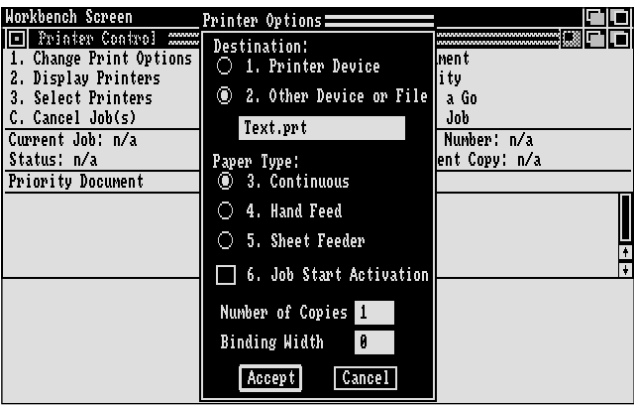
Using the mouse:

*Click on **Change Print Options**.*

Click on the printer you want.

*Click on **Change Print Options**, then click on **Destination**.*

The Destination menu is displayed.



4 Select Device or File (2).

“Print to (Device or File):” appears in a requester.

5 Enter the name for the input file (the file in which the print job will be saved).

When you send the print job (through Print a Document), the text is saved on your disk under the name you entered.

■ Select a Printer to Print to Disk

When you select printers, you can designate a specific printer to always print to a file. As you select the printer, the destination menu is displayed. At the menu,

1 Select Device or File (2).

“Print to (Device or File):” appears in a requester.

2 Enter the name for the input file (the file in which the print job will be saved).

Using the mouse:

Click on **Device or File**.

Type the name and click on **Accept**.

Click on **Device or File**.

Type the name and click on **Accept**.

3 Finish selecting the printer.

Whenever you send a file to that printer, the text is automatically saved on your disk under the filename you entered.

For more information about the complete printer selection process, see *Selecting Printers* in *Print Program*.

■ Printer Troubleshooting

This section provides help in diagnosing some common printer problems and their probable causes.

Each title below is a common problem; underneath each title are possible causes of the problem. Read through the causes and try the easy *fixes* first. If, after all you can do, the printer still does not behave properly, call your dealer or WordPerfect Technical Support for assistance.

Printer won't print

One of the more frequent calls for help occurs when the printer won't print anything. Some common causes are:

- Printer is not plugged in.
- Printer is not on-line.
- Cable is not plugged in tightly.
- There is a problem with ribbon or paper.
- Printer is waiting for a "Go" (see *Printer Control* in this section).
- Printer is not defined correctly (see *Select Printers* in this section).
- There is a cable problem with serial printer.

Check your printer as described in step 4 of the Installation section.

If the printer still does not work after checking through the above list, cancel all print jobs, turn the printer off and on again, send the printer a "Go," then try again.

Using the mouse:

*Choose **Control** on the Print menu, then choose **Send Printer a Go**.*

Printer is printing *garbage*

Sometimes the printer prints extra characters or may scramble the text on the page. Some common causes are:

- Cable is loose.
- Auto line-feed switch is on.
- Baud, parity, and stop bit switches in printer do not match those set in WordPerfect (see your printer manual).

If the printer still does not work after checking through the above list, turn the printer off, then on again, and try checking the list again.

Printer is printing *garbage* approximately every other character

The parity you entered while selecting printers may be wrong. Check your printer manual for the correct value.

Prints part of a document, then prints *garbage* or loses characters

This is sometimes due to an improper serial cable or the wrong communications protocol. WordPerfect supports *hardware handshaking* and XON/XOFF protocol.

Prints *garbage* at the top and/or bottom of the page

This sometimes occurs because you selected a sheet feeder and you really don't have one; or, if you do have one, you selected the wrong sheet feeder.

Double spaces when it should be single spacing

Auto line-feed, form-feed, carriage return, etc., switches on the printer are turned on. Turn them off.

Proportional spacing is not working

In order for a document to be printed with proportional spacing, your printer needs to support the feature.

When you want to use proportional spacing in WordPerfect, you need to change to a proportionally spaced font (be sure to answer *yes* to the “Proportional” requester as you change the font). Font 3 is usually a proportionally spaced font.

When you change to a proportional font, your cursor should be at the beginning of the document, or where you want proportional spacing to begin.

If you are having problems, some common causes include:

A non-proportional font was selected in WordPerfect.

You did not answer *yes* to the “Proportional” requester as you changed to a proportional font.

Printer switch is not set to 10 pitch (WordPerfect handles all pitch and proportional spacing).

The wrong print wheel or cartridge is in place.

Superscripts and Subscripts are not working properly

If you are using a tractor feeder for continuous forms paper, the tractor feeder does not maintain enough friction to handle the fine movement of the paper for super/subscripts. First, try engaging the platen (this solves the problem on a few printers and causes a paper jam on most). Then try removing the paper from the tractor feeder, and feeding it directly through the platen and pinch rollers.

If you have a NEC 3550 printer and are experiencing problems with such things as printing in the left margin or super/subscripts not printing correctly, you may need to change the SW2-5 switch to on.



■ Introduction

Although WordPerfect Corporation provides a vast array of printer definitions on the Print diskette, you may not find one specifically labeled for your printer. You may, however, be able to use a definition that is on the list if your printer emulates one that is supported by WordPerfect Corporation.

If your printer does not emulate any of the printers on the list, you may need to write your own printer definition. Fortunately, this situation is quite rare. Before attempting to write your own definition you may want to call WordPerfect Customer Support to find out if it's really necessary.

More often than needing to write your own printer definition, you may need to modify the printer definition you are using in order to produce a specific result, such as special characters, or characteristics of the output such as shading.

The Printdef program allows you to make these adjustments in the printer definition. However, Printdef is technically oriented and it not intended for the novice user. Be aware that WordPerfect Corporation has carefully prepared and tested each definition to provide you with the best one possible. Often we have been forced to strike a balance between speed and flexibility, or to avoid a printer feature because it does not function consistently. Sometimes we have encountered printer hardware or documentation bugs which we have tried to work around. Before changing a printer definition, remember that there is probably a very good reason why it was written the way it was.

Remember also that, in practice, any printer worth defining will take a few attempts to get it right. Sometimes codes don't do exactly what they sound like they should do. In addition, most printers have features that function so differently from other printers that WordPerfect Corporation software can't use them. Even though a printer doesn't support one feature, it may support a second, which can be used to imitate the first. You may need to experiment a little to achieve the results you want.

■ Basic Terminology

This section will tell you about basic types of printers and different capabilities which they may or may not have, and about the different parts of a printer definition. You should understand all of the terms in this introduction before attempting to create or change a printer definition.

■ Line Printers vs. Page Printers

The first major division between types of printers is whether they print a line at a time or a page at a time. Page printers, often known as *laser* printers, receive and process an entire page of information at a time. Once the page is processed it is printed. Page printers are like smart photocopy machines, and in fact, they use the same basic technology to produce the images on the paper. Page printers are generally the fastest type of printer.

Line printers process and print one line at a time. Physically, they handle this process in two ways: They can either have a movable print head that advances for each character printed, or they can have a print head that is fixed where the platen (the roll that holds the paper) moves across the print head. The first type is by far the most popular.

There are several subcategories of line printers. There are dot-matrix printers that print a unique series of dots which to the eye form a character or other meaningful image. Dot-matrix printers have two advantages: 1) They have great potential flexibility because new characters and images can be produced simply by creating a new formation of the dots. 2) In general, they are fast (for line printers).

The daisy wheel printer is another type of line printer. A daisy wheel printer has the characters and symbols it can print on an element that resembles a daisy. The daisy wheel spins around rapidly to position the needed character so that it can be struck from behind and thus produce the image on the paper. This technology is similar to that used in typewriters.

In addition to dot-matrix and daisy wheel printers, there are other types of line printers, the differences between which are not useful to distinguish here.

■ **Letter-Quality vs. Non-Letter-Quality**

A letter-quality printer is simply a printer that produces characters and images which are acceptable in standard business letters. Printers which can print the same quality as a good typewriter are generally considered to be letter-quality printers. Dot-matrix printers are generally not considered to be letter-quality, although some can produce near letter-quality print; daisy wheel printers are considered to be letter-quality. With the advent of laser printers, the quality of print that can be produced is close to that of professionally typeset and printed images. We might term this type of printer “super letter-quality,” but usually they are considered in the same group as the letter-quality printers.

■ Paper Feeding

All printers that print on paper must have it fed through them in some fashion. Most line printers allow for two types of paper feeding: 1) Hand-fed paper and 2) Tractor-fed continuous-form paper. The hand-fed method is usually used for envelopes, odd-size paper, or letterhead paper that is printed on single sheets. The tractor-fed method is used for all types of fan-fold paper designed especially for use with printers. Continuous paper has the advantage that you don't have to insert each page manually.

Page printers do not use fan-fold paper. They hold single sheets in a paper feed box which is manipulated so that it can feed one sheet after another. Because you do not have to insert each sheet manually, page printers are classified as continuous-form printers.

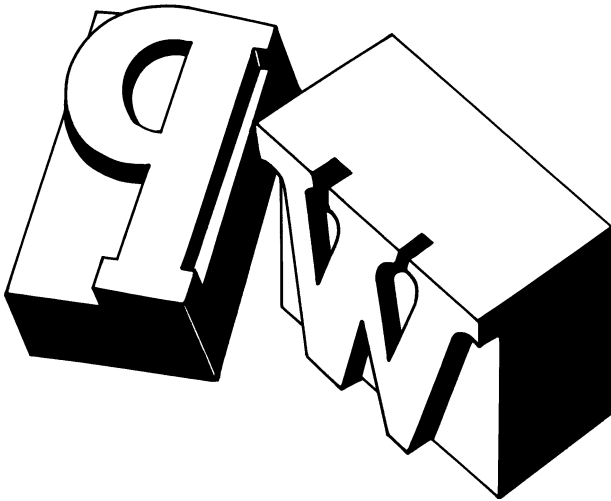
Many printers allow the attachment of a sheet feeder. A sheet feeder is a device which keeps track of several different types of paper, and feeds the correct one to the printer when it is called upon to do so. Each type of paper is kept in a separate location (called a bin). When you print, you tell the printer from which bin to draw the paper for that print job.

Almost all printers that allow attachment of a sheet-feeder also provide for one of the other types of paper feeding. Almost no printers *require* that a sheet feeder be attached.

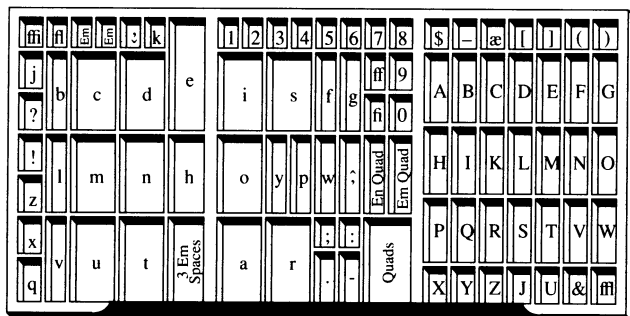
■ Fonts, Attributes, and Character Tables

Basically, a *font* is a particular style of lettering. However, the exact definition of a font is currently the subject of debate among printer manufacturers and software designers.

The original definition of a font comes from the type of presses used in the printing industry before the advent of computers. In this type of press, each individual character was carved in relief on a small metal block. The blocks were then held together in rows to create the text. When all the blocks needed for an entire page were in place, they were inked and pressed to the paper.



In order to keep all of these small blocks organized, special compartmental boxes were designed, with one compartment for each character. The typesetter could then reach into the appropriate compartment for each character as he needed it.



The fact that each character had to be carved in metal created some limitations. First, there had to be a different set of blocks for each type style. These type styles were given names, such as Times Roman, Helvetica, and Broadway so that they could be easily referred to.

Times Roman
Helvetica
BROADWAY

Then for each type style, there had to be a separate set of blocks for each size of print. The size of characters is measured by their height in units of picas and points. One pica is equal to 1/6 inch, and one point is equal to 1/12 pica. So, a printer might have a box of print elements for Times Roman 10 point, another for Times Roman 12 point, and so on for each size. Then of course, there would be another series of boxes for Helvetica 10 point, Helvetica 12 point, etc.

It was also necessary to have a way to distinguish certain words within a string of text that was all in the same type style and point size. The most popular methods were the use of italicized and bolded characters. Of course, this required additional sets of printing elements. These were identified as Times Roman 10 point Bold, Times Roman 10 point Italic, etc.

Each set of elements was termed a font. To change any of the attributes of the lettering one had to change to a different box of elements, or as we have defined it, a different font. This system was extremely cumbersome.

With the advent of computers and new methods of producing the characters on paper, it was no longer necessary to have a box of elements for each change in attribute of a type style. Today the most advanced printers consider a font simply the style of lettering, like Times Roman. The attributes of size, bold and italics are simply manipulations of the basic character set. The set of characters available for a given font is now called a *character table*, and is analogous to the compartmentalized box of earlier days. The following is an example of a character table:

```

0
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9

000

020                                     ! " # $ % &

040 ( ) * + , - . / 0 1 2 3 4 5 6 7 8 9 : ;

060 < = > ? @ A B C D E F G H I J K L M N O

080 P Q R S T U V W X Y Z [ \ ] ^ _ ` a b c

100 d e f g h i j k l m n o p q r s t u v w

120 x y z { | } ~

140

160   ¡ ¢ £ € ¥ ¦ § ¨ © º « ¬ ® ¯ ° ± ² ³

180 ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾ ¿ À Á Â Ã Ä Å Æ Ç

200 È É Ê Ë Ì Í Î Ï Ð Ñ Ò Ó Ô Õ Ö × Ø Ù Ú Û

220 Ü Ý Þ ß à á â ã ä å æ ç è é ê ë ì í î ï

240 ð ñ ò ó ô õ ö ÷ ø ù ú û ü ý þ ÿ (end)

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9
0                                     1

```

However, not all printers use this definition of font. Many still consider Times Roman 10 point Italic a different font from Times Roman 10 point or Times Roman 10 point Bold. They require the use of a different character table for every change in attribute of the type style.

Some printers have mixed the old definition with the new. For example, they may be able to manipulate the characters in Times Roman 10 point to produce Times Roman 10 point Bold or Times Roman 10 point Italic, but still require a shift to a different “font” or character table to produce Times Roman 12 point. This is particularly common in line printers. For example, a printer may be able to move the print head slightly to produce the slant of italics, or it may strike characters twice or three times to produce bold. Yet it will not be able to change the size of the characters without changing to a new font.

The Printdef program allows you to select eight of your printer's character tables (which it then labels as *fonts*). Consult the manual that came with your printer to find out how its manufacturers have defined its fonts, and what character tables are available.

■ Pitch and Proportional Spacing

Pitch is the measure of the number of characters per inch for a given font. The most common pitches used are 10 and 12 (which correspond to *pica* and *elite* in typewriter terminology). Many printers allow you to vary the pitch for a given font.

This is 10 pitch.

This is 12 pitch.

This is 15 pitch.

The above definition of pitch requires that all the characters of a font have the same width. However, in some fonts, some characters are wider than others. For example, i's and l's are narrower than m's and w's. Fonts whose character widths vary are called *proportionally spaced fonts*.

non-proportionally spaced

proportionally spaced

Some printers allow proportional spacing and others do not. But in those that do, the pitch for a font becomes a measure of the space *between* characters, rather than the number of characters per inch. Usually the way to find out what pitch should be used with a proportionally spaced font (if it is not listed in your printer manual) is by trial and error. Some printers allow proportionally spaced fonts to be printed non-proportionally by simply using the width of the widest character for all characters.

Some fonts look better proportionally spaced, and others do not. Consult your printer manual and experiment a little to find out the best pitch for each font, and whether or not to use proportional spacing.

■ Justification

There are three methods of spacing which a line printer may use to produce justified text. These are HMI (Horizontal Motion Index), Microspacing, and Space Fill.

HMI defines the horizontal distance the print head moves when the next character is printed. HMI is the preferred method of controlling the print head because Printdef then controls the character widths and makes right justification easier. However, some printers do not have HMI capability, and some printers that have the capability have fonts that cannot be controlled with it. In either of these cases, you must use microspacing or space fill to justify text.

Microspacing is the next best method for justifying text. Microspacing moves the print head a relative number of units (1, 2, 4, 8, or 16). The important difference between HMI and microspacing is that HMI allows characters to compress and expand on a line, whereas microspacing only allows expansion of characters.

If your printer has neither HMI nor microspacing capability, you must use space fill to justify text. Space fill uses full-sized spaces between the words to fill out the line. This method is not preferred because the line may look uneven when the words have varying numbers of spaces between them.

Consult your printer manual to find out whether your printer has HMI or microspacing capability, both, or neither.

■ Vertical Spacing

Most printers that support HMI also support VMI (Vertical Motion Index). VMI defines the vertical distance the platen moves when the printer receives a line feed or reverse line feed. VMI is used to print superscripts and subscripts.

■ Parts of a Printer Definition

There are three parts to a printer definition. They are: 1) printer code definition, 2) character table definition, and 3) sheet feeder definition.

Printer code definitions contain translations for the codes WordPerfect Corporation software may send to your printer. For example, they contain the translations for the Bold On code ([B]) in WordPerfect.

Character table definitions match one of the character tables provided on your printer to one of the eight font numbers allowed in WordPerfect Corporation software products (known as Font 1, Font 2, etc.).

Sheet feeder definitions translate bin number codes in the file to be printed into the commands your sheet feeder needs to feed paper from that bin. If you don't have a sheet feeder attached to your printer, you will not need the sheet feeder definition part of the printer definition.

Any of these three parts of a printer definition may be modified or created with the Printdef program.

■ Entering Codes

When you create or modify any part of a printer definition, you will be asked to enter the codes which perform certain actions on your printer or sheet feeder. These codes should be included in the manual that came with your printer or sheet feeder.

■ Syntax

You must use the correct syntax when you enter codes. There are three basic rules to follow:

- 1) Enter printable ASCII characters (decimal 33 to 126) in ASCII form.
- 2) Enter non-printable ASCII characters (anything less than decimal 33 or greater than 126) as decimal numbers inside of angle brackets (<>).
- 3) When you enter 2 or more codes at a single item, enter no spaces or other punctuation between codes unless your printer specifically requires it. (A group of codes entered at the same item is called a *string*.)

Printer and sheet feeder manuals usually list codes in ASCII form. However, sometimes the codes are given only in hexadecimal form. Use the following table to convert ASCII and hexadecimal codes into their decimal form:

Decimal, Hexadecimal, ASCII Conversion Chart

DEC	HEX	ASCII	DEC	HEX	ASCII	DEC	HEX	ASCII
0	00	NUL	43	2B	+	86	56	V
1	01	SOH	44	2C	,	87	57	W
2	02	STX	45	2D	-	88	58	X
3	03	ETX	46	2E	.	89	59	Y
4	04	EOT	47	2F	/	90	5A	Z
5	05	ENQ	48	30	0	91	5B	[
6	06	ACL	49	31	1	92	5C	\
7	07	BEL	50	32	2	93	5D	]
8	08	BS	51	33	3	94	5E	^
9	09	HT	52	34	4	95	5F	_
10	0A	LF	53	35	5	96	60	
11	0B	VT	54	36	6	97	61	a
12	0C	FF	55	37	7	98	62	b
13	0D	CR	56	38	8	99	63	c
14	0E	SO	57	39	9	100	64	d
15	0F	SI	58	3A	:	101	65	e
16	10	DLE	59	3B	;	102	66	f
17	11	DC1	60	3C	<	103	67	g
18	12	DC2	61	3D	=	104	68	h
19	13	DC3	62	3E	>	105	69	i
20	14	DC4	63	3F	?	106	6A	j
21	15	NAK	64	40	@	107	6B	k
22	16	SYN	65	41	A	108	6C	l
23	17	ETB	66	42	B	109	6D	m
24	18	CAN	67	43	C	110	6E	n
25	19	EM	68	44	D	111	6F	o
26	1A	SUB	69	45	E	112	70	p
27	1B	ESC	70	46	F	113	71	q
28	1C	FS	71	47	G	114	72	r
29	1D	GS	72	48	H	115	73	s
30	1E	RS	73	49	I	116	74	t
31	1F	US	74	4A	J	117	75	u
32	20	SP	75	4B	K	118	76	v
33	21	!	76	4C	L	119	77	w
34	22	"	77	4D	M	120	78	x
35	23	#	78	4E	N	121	79	y
36	24	\$	79	4F	O	122	7A	z
37	25	%	80	50	P	123	7B	{
38	26	&	81	51	Q	124	7C	
39	27	'	82	52	R	125	7D	}
40	28	(	83	53	S	126	7E	~
41	29	)	84	54	T	127	7F	DEL
42	2A	*	85	55	U			

For example, look at the following list of codes from the Panasonic KX-P1092i printer manual:

Software Commands (Standard mod

FONT SELECTION

Name	Function
ESC+4	Selects Italic printing
ESC+5	Releases Italic printing
ESC+x+n	Selects print font
ESC+S+0	Selects superscript printing
ESC+S+1	Selects subscript printing
ESC+T	Releases sub superscript printing

CHARACTER PITCH SELECTION

Name	Function
ESC+P	Sets 10 cpi (pica pitch) draft printing
ESC+M	Sets 12 cpi (elite pitch) draft printing
ESC+n	Sets 10 cpi NLQ printing
ESC+o	Sets 12 cpi NLQ printing

These codes are given in ASCII form. The code to “select italic printing” is listed as ESC + 4. To convert these codes into the form required by Printdef, look them up on the table.

The ASCII code ESC has a decimal value of less than 33, so it must be entered as its decimal value enclosed in angle brackets: **<27>**. ASCII 4 has a decimal value between 33 and 126, so it is entered in ASCII form: **4**. The entire string you would enter is: **<27>4**.

Sometimes printer manuals will show codes using Basic syntax. Basic’s **CHR\$()** is equivalent to Printdef’s **< >**. Basic’s “xxxx” (a string in double quotes) is equivalent to Printdef’s xxxx (the same string without quotes). For example, Basic **CHR\$(27)“p”CHR\$(1)** would be entered as **<27>p<1>** in Printdef. (This would be written **ESCpSOH** or **ESC + p + SOH** in ASCII.)

■ Special Codes

In addition to these standard codes, Printdef uses some special codes which consist of letters enclosed in angle brackets, like <A>. These codes provide a means of getting around printer inconsistencies and limitations, and provide access to features available only from inside Printdef. They can also serve as a shorthand method of entering codes by combining long series of printer codes into a single Printdef code. A list of these codes and their meanings is provided in *Appendix A: Special Codes*. You can also see this list by selecting Special Codes (option 2) from the main menu. (See *Using Printdef in Printdef Program* for more information.)

■ Getting Started with Printdef

■ Start the Printdef Program

- 1 Insert the diskette you use to boot your computer into drive 0 (in a two disk drive system).
- 2 Insert the Print diskette into drive 1. (If you have a hard disk, insert the Print diskette into drive 0.)

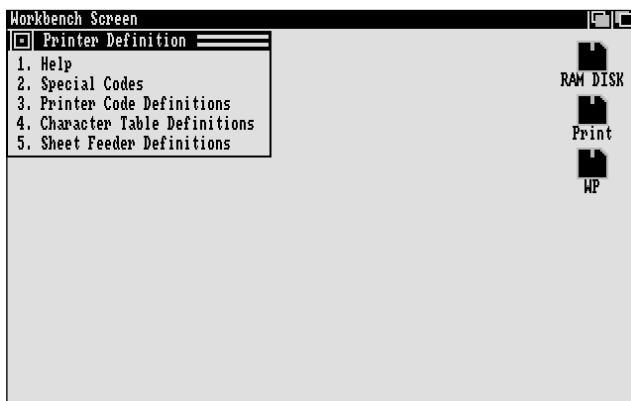
With the Workbench or CLI prompt displayed on the screen,

- 3 If you are using the Workbench, double-click on the Print disk icon, then double-click on the Printdef icon.

or

If you are using the CLI, enter **print:printdef**.

The main menu appears:



■ Main Menu Options

Item 1 on the menu, Help, provides a short introduction to the Printdef program. You can read this introduction by entering **1**, or by clicking on Help. Item 2, Special Codes, displays a list of the special codes Printdef uses. (A list of these codes is also included in *Appendix A: Special Codes* at the end of this *Printing Guide*.) Items 3 through 5 on the menu correspond to the three parts of a printer definition, and allow you to modify their respective part.

To select any item on the main menu,

- 1 Enter the number for the item.

Help and Special Codes

Items 1 and 2, Help and Special Codes, simply display information when you select them. Use the arrow keys, Page Up and Page Down keys, or Scroll gadget to scroll through the information. When you are finished,

- 1 Press **Exit** (F7) to return to the main menu.

Printer Code, Character Table and Sheet Feeder Definitions

The last four items on the main menu are used to create, modify, rename or delete their respective part of the printer definition. When you select any of these items, a window appears with a list of the printers, character tables or sheet feeders for which a definition has been written. You can move through these lists by using the arrow keys, Page Up and Page Down keys, or Scroll gadget.

■ Edit Menu Options

For each of the three lists (of printer code, character table and sheet feeder definitions), there are three Edit menu options available: Create, Rename and Delete.

Using the mouse:

Click on the item.

Click on the Close gadget.

Create

Create allows you to create a new printer code, character table, or sheet feeder definition (depending on the current main menu selection), using one that already exists as a pattern. You should use this feature as a safety measure anytime you want to modify a printer definition. You can then make any changes you want to the copy without destroying the original. To create a copy of an existing printer code, character table, or sheet feeder definition,

- 1 Highlight the name of the printer code, character table, or sheet feeder definition that you want to use as a pattern.

If you are not sure which printer to use as a pattern when creating a printer code definition, try Standard Printer. If you are creating a character table definition, be sure to use a definition that is of the same type (HMI or microspace) as the one you want to create. (For more information, see *Character Table Definitions* in *Printdef Program*.)

- 2 Press **Create** (Right Amiga-C).

A requester appears and allows you to enter a name for the new definition.

- 3 Enter the new name.

Another requester appears asking for the name of the printer code, character table, or sheet feeder definition to use as a pattern. Since you highlighted the one you wanted to use in step 1, it appears as a default in the requester.

- 4 Press **Return** to accept the name.

A copy of the definition is then made under the new name you entered and appears at the bottom of the list.

Using the mouse:

Choose **Create** on the Edit menu.

Type the name and click on **Accept**.

Click on **Accept**.

Rename

You can rename any of the printer code, character table, or sheet feeder definitions.

It is suggested that you only rename definitions that you create or copy yourself. Then if you ever need to call WordPerfect Customer Support, you will have the same names for WordPerfect Corporation's definitions.

1 Highlight the one you want to rename using the arrow keys.

2 Press **Rename** (Right Amiga-R).

A requester appears asking which printer code, character table, or sheet feeder definition you want to rename. Since you highlighted the one you want to rename in step 1, it appears as a default in the requester.

3 Press **Return** to accept the default.

Another requester appears asking you to enter the new name.

4 Enter the new name.

Delete

You can delete any printer code, character table, or sheet feeder definition, however, you should be very careful when doing so because they cannot be undeleted. In general, there is no need to delete a WordPerfect Corporation definition. Usually you will only want to delete definitions you create or copy yourself. (Since a certain amount of disk space is dedicated to the printer definitions, you do not save space by deleting the ones you don't use.)

Using the mouse:

Click on the one you want to rename.

*Choose **Rename** on the Edit menu.*

*Click on **Accept**.*

*Type the new name and click on **Accept**.*

To delete a definition,

1 Highlight the one you want to delete using the arrow keys.

2 Press **Delete** (Right Amiga-D).

A requester appears asking which printer code, character table, or sheet feeder definition you want to delete. Since you highlighted the one you want to delete in step 1, it appears as a default in the requester.

3 Press **Return** to accept the default.

■ More Information

For more information on how to use options 3-5 on the main menu, see *Printer Code Definitions*, *Character Table Definitions*, and *Sheet Feeder Definitions* in *Printdef Program*.

Using the mouse:

Click on the one you want to delete.

*Choose **Delete** on the Edit menu.*

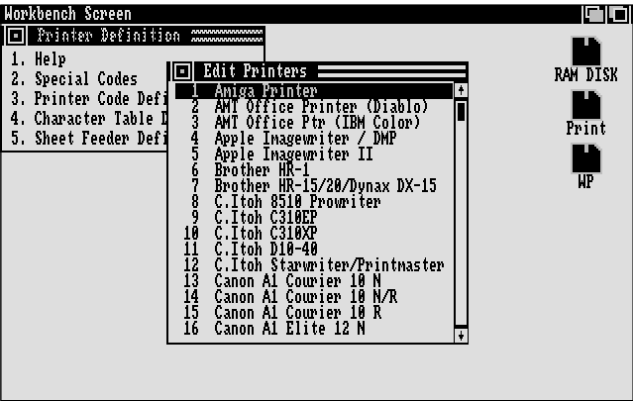
*Click on **Accept**.*

■ Printer Code Definitions

A printer code definition is a table of codes which the Print program uses to right justify, underline, superscript, and perform other functions on a particular printer. Each printer code definition also contains codes to make the printer shift into different fonts and the names of the character tables to use with those fonts.

In some cases, a printer may need more than one definition in order to handle all of its capabilities. For example, you may use different printer code definitions for the HP LaserJet printer to work with different font cartridges. The LaserJet-A printer code definition has been set up for use with font cartridge A, and the LaserJet-B definition has been set up for font cartridge B (proportional spacing).

When you choose Printer Code Definitions from the main menu, a list of current definitions appears.



Before you edit a printer code definition, you should follow these steps so that you don't inadvertently destroy a working definition:

- 1 Create a new printer definition using the old one as a pattern. (See *Create* under *Getting Started with Printdef* in *Printdef Program* for more information.)
- 2 Edit the newly created definition.

When you are finished,

- 3 Test the modified definition thoroughly to be sure it works.

When you are sure the definition has been completely tested,

- 4 Delete the original definition only if you are sure you will never need it.

To begin editing one of the definitions on the list,

- 1 Use the arrow keys, **Page Up** (PgUp), and **Page Down** (PgDn) to highlight the definition you want, then press **Return**.

The first screen of codes appears. The codes which you enter in the printer code definition are grouped into categories, with each category displayed on a separate screen. These categories are listed on the pull-down Screen menu.

Using the mouse:

Use the scroll gadget to scroll through the list, then double-click on the name of the definition.

Screen	Page	
1. Printer Initialization	A1	1. Printer Initialization
2. Carriage Rtn/Backspace	A2	Dot Matrix w/HMI; 0=Other) 0
3. Line Spacing and VMI	A3	0b
4. Microspacing and HMI	A4	
5. Underline	A5	
6. Bold/Italics/SuperSubscript	A6	
7. Strikeout/Redline/Footnote	A7	ze
8. Pitch/Miscellaneous	A8	
9. Change Fonts 1-4	A9	
A. Change Fonts 5-8	AA	en (for Sheet Feeders)
B. Select Character Tables	AB	; 1=IBM; 2=Diablo 630; etc.) 0

To select any category, simply choose it from the menu, or use the keystrokes listed next to it on the menu. These instructions are organized to match the screens that are displayed when you choose each category from the menu or by keystrokes. Here is the screen for the first category of codes, Printer Initialization:

Workbench Screen	
☒ Definition Name	1. Printer Initialization
1. Printer Type (1=Tandy DMP IIB; 2=Dot Matrix w/HMI; 0=Other) 0	
2. Initialize Printer Before Print Job	
3. Reset Printer After Print Job	
4. Initialize Printer at Start of Page	
5. Reset Printer at End of Page	
6. Move Print Head to Center of Platen (for Sheet Feeders)	
7. Forms Length Setting Type (0=None; 1=IBM; 2=Diablo 630; etc.) 1	

On the line under each item on the screen you should enter the requested codes if applicable for your printer. (Some items request yes/no answers instead of codes.) To access any of the items,

- 1 Type the number of the item.

The line (or answer area) is highlighted. You can then type the string of codes and press Return or Exit (F7) to exit the item. You can also exit by pressing an arrow key. This method is especially useful for moving to the next item in one step.

To move from one screen to the next, you can use Page Up (PgUp) and Page Down (PgDn), or to move directly to a particular screen, choose it from the menu or press the keys for that screen as they are listed on the Screen menu.

To exit when you are finished editing all the screens,

- 1 Press **Exit** (F7), then type **y** or **n** to save or not save the file.

You are returned to the printer code definitions list, where you may then choose another definition to edit, or exit by clicking on the Close gadget or pressing Exit.

The instructions that follow describe the items on each screen in the printer code definition feature of the Printdef program.

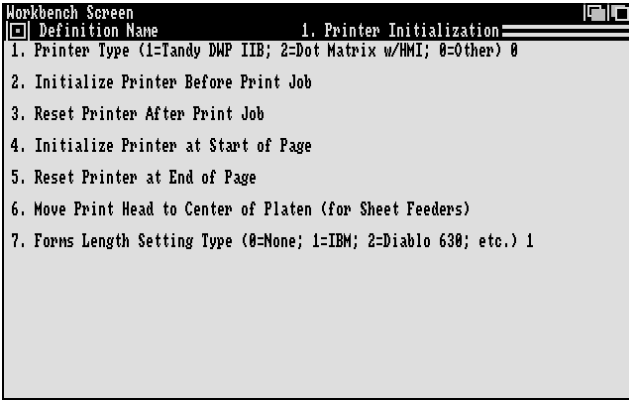
Using the mouse:

Click on the line below the item.

*Type the string of codes, then choose **Exit** on the Page menu.*

*Click on the Close gadget, then click on **Yes** or **No**.*

■ Printer Initialization



The screenshot shows a window titled "Workbench Screen" with a menu bar containing "Definition Name" and "1. Printer Initialization". Below the menu bar, a list of seven options is displayed:

1. Printer Type (1=Tandy DWP IIB; 2=Dot Matrix w/HMI; 0=Other) 0
2. Initialize Printer Before Print Job
3. Reset Printer After Print Job
4. Initialize Printer at Start of Page
5. Reset Printer at End of Page
6. Move Print Head to Center of Platen (for Sheet Feeders)
7. Forms Length Setting Type (0=None; 1=IBM; 2=Diablo 630; etc.) 1

1. Printer Type

Your response here tells the Print program what type of printer you are using. Some printers need special codes to function properly. The Program will automatically insert the correct codes according to your entry at this item.

Enter **1** if you are using a Tandy DWP IIB type printer. This printer requires an extra code to be sent with each printed character to control hammer intensity, ribbon motion, etc.

Enter **2** if you are using a dot matrix printer with HMI capability, or if your dot matrix printer has trouble (such as excessive print head motion) using a WordPerfect Corporation product's underlining and bolding features. Be aware that if you enter 2 here, underline characters may not overlap, and bolding will be performed on a second pass.

Enter **3** if you are using an Apple LaserWriter printer.

Enter **0** for all other kinds of printers.

2. Initialize Printer Before Print Job

When a job is sent to the printer, it is printed according to the settings currently in effect on the printer. This string is sent to the printer at the beginning of every print job to reset the defaults you want for WordPerfect Corporation product print jobs. You might reset pitch, line spacing, etc., which may have been changed by a previous print job.

For example, in the printer code definition for the HP LaserJet, codes for page thickness and stacking of paper in the output tray are entered at this item. In the definitions for Diablo printers, codes telling how hard to strike the platen with the print wheel elements, and a code for printing unidirectionally are entered at this item.

3. Reset Printer After Print Job

This string is sent to the printer at the end of every print job. Enter codes here to return the printer to default settings. This is very important, for example, if you are working on a network and must leave the printer “clean,” so that print jobs from other programs will print correctly.

4. Initialize Printer at Start of Page

This string is sent to the printer at the beginning of every page. The most common code here is that for positioning the print head on the page.

5. Reset Printer at End of Page

If you enter codes here, the Print program sends this string to the printer at the end of every page instead of trying to advance to the top of the next page. Always include a form feed code in this string if you use it in a definition.

A form feed can mean one of two things to a printer. On some printers it ejects the current page. On others it will set top of form. If a printer doesn't obey the top margin, many times all that is needed is a <12> at this item.

**6. Move Print Head to Center of Platen
(for Sheet Feeders)**

Enter the code(s) here to center the print head on the platen if you have a sheet feeder attached to the printer.

Many printers with a sheet feeder attached don't use or have a bar to hold the paper to the platen. Centering the print head helps to keep the paper from jamming, or the print head from moving across the paper and ripping it.

You may also want to enter this string if you frequently get paper jams in a laser printer.

7. Forms Length Setting Type

Different printers require different types of forms length settings. The Print program has built-in codes for the most common ways to measure the length of a page. The number entered here accesses a special code in Print so that the printer knows how to measure the number of lines on a page. The following table lists the numbers which may be entered at this item. The number you enter assures that the correct string will be sent to the printer.

Type	Printer String	Printers that may use this type
0	None	Use when settings are not needed or wanted—Most printers fall into this category
1	<27>C<lines>	IBM printers, Epson FX, MX, LQ-1500, NEC 3550, Star Gemini
2	<27><12><lines>	Diablo 620,630, 630 ECS, NEC 3515,3525
3	<27>C<0><inches>	IBM Printers (Alternate method)

4	<27>4<lines>	Tandy DMP 2100P
5	<27>L(nn)	C.Itoh Starwriter
6	<27>F(nn)	Toshiba 1340, 1350, 1351
7	<27>&l(n)P	HP LaserJet
<inches>	=	Number of inches as one binary byte
<lines>	=	Number of lines as one binary byte
(n)	=	Number of Lines as one or more ASCII digits
(nn)	=	Number of lines as two ASCII digits (Forces a leading 0 if less than 10)

Although this table shows the actual string sent to the printer, you need only enter the number for the type, as listed in the far left column. (This table is also listed at the end of Special Codes, item 2 on the main menu.) Unless you see the printer you are using in the right-hand column or are sure you need another type, enter **0**.

■ Carriage Return/Backspace

Workbench Screen

☐ Definition Name 2. Carriage Rtn/Backspace

1. Perform Carriage Return
2. Perform Line Feed
3. Perform Reverse Line Feed
4. Automatic Carriage Return With Line Feed? N
5. Automatic Line Feed With Carriage Return? N
6. Does Printer Have Backspace Capability? Y
7. Perform Backspace

Enter codes for the items on this screen only if you are using a line printer.

1. Perform Carriage Return

Almost every printer requires a <13> here. Some printers require that carriage returns and line feeds be sent together. If this is the case, enter <13><10> here and answer *yes* to item 5, Automatic Line Feed with Carriage Return? Enter <0> (null) here if you never want Print to send a carriage return to the printer.

2. Perform Line Feed

Enter the code to perform a line feed. This code is used to advance down the page one line. Almost every printer requires a <10> here. Some printers require that carriage returns and line feeds be sent together. If this is the case, enter <13><10> here and answer *yes* to item 4, Automatic Carriage Return with Line Feed?

Some printers perform two half-line feeds to accomplish a line feed. If this is the case with your printer, enter two half-line feed codes here.

3. Perform Reverse Line Feed

This code is used to advance up the page one line. If your printer has this capability, enter the code for it here. This code is necessary to use the Advance Up feature of WordPerfect. However, many printers do not have this capability, and some are limited if there is a sheet feeder attached.

4. Automatic Carriage Return with Line Feed?

Some printers automatically perform a carriage return when they receive a line feed code. Enter *y* if your printer does this. Otherwise, enter *n*.

5. Automatic Line Feed with Carriage Return?

Some printers automatically perform a line feed when they receive a carriage return code. Enter **y** if your printer does this. If you answer *yes* to this question and your printer cannot backspace, you may not be able to bold, underline, or overstrike. If your printer does not automatically perform a line feed when it receives a carriage return code, enter **n** at this item.

6. Does Printer Have Backspace Capability?

Some printers cannot backspace. If yours can, enter **y** and then enter the code to perform a backspace at item 7, Perform Backspace. If your printer doesn't have backspace or reverse line feed capability, enter **n** here. If your printer does not have backspace or reverse line feed capability, it may not be able to consistently overstrike, underline, or superscript.

7. Perform Backspace

Enter the code to perform a backspace if your printer has that capability. If you leave this item blank, the code is assumed to consist of the standard backspace character <8>.

■ Line Spacing and VMI

Workbench Screen

Definition Name 3. Line Spacing and VMI

1. Perform 1/2 Line Feed
2. Perform Reverse 1/2 Line Feed
3. Advance Paper 1/24 Inch
4. Set 6 Lines per Inch
5. Set 8 Lines per Inch
6. VMI Unit (48 = 1/48 Inch) 0
7. Set VMI (Example: Diablo uses <27><30><K>)
8. VMI Bias Factor (Added to VMI value before sending <K> or <L>) 0
9. Maximum VMI Setting 0

On this screen, either enter the codes for items 1 through 5 (if your printer does not support VMI), or enter the codes for items 6 through 9 (if your printer does support VMI).

1. Perform 1/2 Line Feed

Enter the code to perform a half-line feed. If your printer does not have this capability, you will not be able to use the Advance Down feature in WordPerfect (unless your printer supports VMI).

Do not enter a code here if your printer supports VMI.

2. Perform Reverse 1/2 Line Feed

Enter the code to perform a reverse half-line feed. If your printer does not have this capability, you will not be able to use the Advance Up feature in WordPerfect (unless your printer supports VMI).

Do not enter a code here if your printer supports VMI.

3. Advance Paper 1/24 Inch

Enter the code to advance paper 1/24th of an inch. The Print program uses this command to get to the top of the next page if 6 and 8 lines per inch were used on the same page.

Do not enter a code here if your printer supports VMI.

4. Set 6 Lines/Inch

Enter the code to set line spacing to 6 lines per inch.

Do not enter a code here if your printer supports VMI.

5. Set 8 Lines/Inch

Enter the code to set line spacing to 8 lines per inch.

Do not enter a code here if your printer supports VMI.

6. VMI Unit

Enter the units in which VMI is defined on your printer. Most printers which support VMI accept settings in 1/48 inch increments. (For a definition of VMI, see *Vertical Spacing* under *Basic Terminology* in *Printdef Program*.)

Do not enter a code here if your printer does not support VMI.

7. Set VMI

If your printer supports VMI, this string is sent to the printer whenever the Print program needs to adjust the width of a line feed or reverse line feed. In the string you enter, insert <K> or <L> for the VMI setting. <K> and <L> are variables that represent the VMI value. <K> represents the value in decimal form and <L> represents it in ASCII form. The actual value of these variables is calculated internally by the Print program during printing.

For example, Diablo printers accept VMI settings in decimal form. Therefore, the codes you would enter at this item would be: <27><30><K>.

Do not enter a code here if your printer does not support VMI.

8. VMI Bias Factor

For some printers a bias factor must be added to the VMI value before it replaces <K> or <L>. For example, Diablo printers have a bias factor of 1 because the difference between the code sent to the printer and the actual VMI setting is 1. (VMI set to 1/48th inch = <27><30><2>, VMI set to 2/48ths inch = <27><30><3>.)

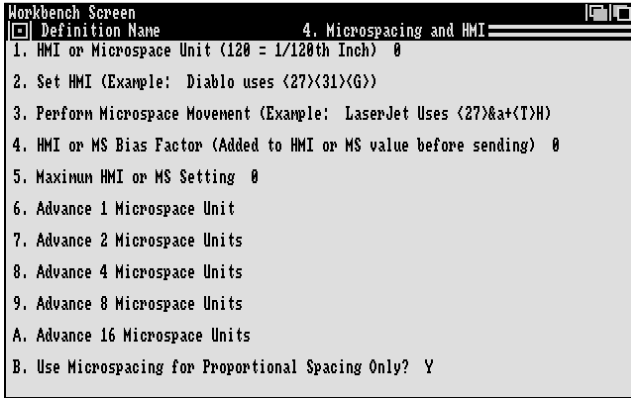
Do not enter a code here if your printer does not support VMI.

9. Maximum VMI Setting

Enter the maximum VMI setting supported by your printer.

Do not enter a code here if your printer does not support VMI.

■ Microspacing and HMI



Workbench Screen

4. Microspacing and HMI

1. HMI or Microspace Unit (120 = 1/120th Inch) 0

2. Set HMI (Example: Diablo uses <27><31><G>) 0

3. Perform Microspace Movement (Example: LaserJet Uses <27>&a+<T>H) 0

4. HMI or MS Bias Factor (Added to HMI or MS value before sending) 0

5. Maximum HMI or MS Setting 0

6. Advance 1 Microspace Unit

7. Advance 2 Microspace Units

8. Advance 4 Microspace Units

9. Advance 8 Microspace Units

A. Advance 16 Microspace Units

B. Use Microspacing for Proportional Spacing Only? Y

The items on this screen allow you to enter codes for HMI and microspacing.

HMI is the preferred method for spacing. However, if your printer supports both of these features, you can enter strings for both HMI and microspacing. This is the case with the HP LaserJet, as well as many NECs, Diablos, and Qumes. If you enter codes for both HMI and microspacing, the Print program assumes that HMI affects only the width of the space character when proportional spacing is in effect. HMI will be used to print non-proportional fonts; proportionally spaced fonts will be printed using HMI settings and spaces to advance between words or letters.

If your printer supports neither of these features, do not enter any codes on this screen.

1. HMI or Microspace Unit

Enter the units in which HMI or microspace motion is defined on your printer. (For more information about VMI and microspacing, see *Justification* under *Basic Terminology* in *Printdef Program*.)

2. Set HMI

If your printer supports HMI, this string is sent to the printer whenever the Print program needs to adjust the HMI setting. In the string you enter, insert <G> or <H> for the HMI setting. <G> and <H> are variables that represent the HMI value. <G> represents the value in decimal form and <H> represents it in ASCII form. The actual value of these variables is calculated internally by the Print program during printing.

For example, Diablo printers accept HMI settings in decimal form. Therefore, the codes you would enter at this item would be: <27><31><G>.

3. Perform Microspace Movement

If your printer supports microspacing, this string is sent to the printer whenever one or more units need to be advanced in order to accomplish justification (when the printer does not support HMI). In the string you enter, insert <S> or <T> for the microspace setting. <S> and <T> are variables that represent the microspace value. <S> represents the value in decimal form and <T> represents it in ASCII form. The actual value of these variables is calculated internally by the Print program during printing.

For example, the HP LaserJet accepts settings in ASCII form. Therefore, the codes you would enter at this item would be: <27>&a+<T>H.

4. HMI or MS Bias Factor

For some printers a bias factor must be added to the HMI or microspace value before it replaces <G>, <H>, <S>, or <T>. For example, Diablo printers have a bias factor of 1 because the difference between the code sent to the printer and the actual HMI setting is 1. (HMI set to 1/120th inch = <27><31><2>, HMI set to 2/120ths inch = <27><31><3>.)

5. Maximum HMI or MS Setting

Enter the maximum HMI or microspace setting supported by your printer, or 999, whichever is smaller. (Though your printer may not have a limit, the Print program does have a limit of 999.)

6-A. Advance 1,2,4,8,16 Microspace Units

Enter the code to move 1, 2, 4, 8, or 16 microspace units.

If item 3, Perform Microspace Movement, is blank, use these strings to print right-justified text instead. These strings should only be used in this way when the microspace commands are not definable using <S> or <R> in the Perform Microspace Movement string. (The Epson FX printer is one that fits into this category.)

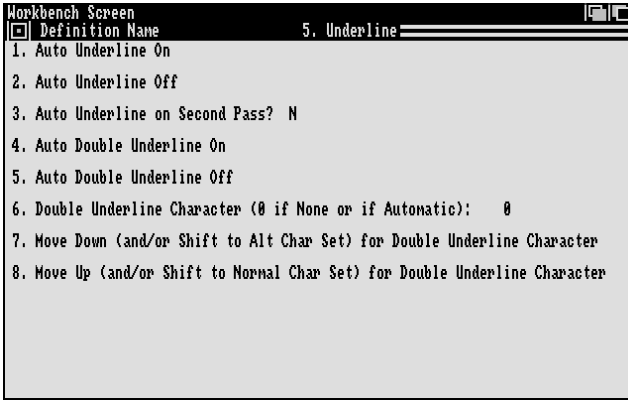
B. Use Microspacing for Proportional Spacing Only?

This question determines when microspacing is used. If you answer *no* (enter **n**), microspacing is used anytime you print right-justified text.

If you answer *yes* (enter **y**), microspacing is used only to right justify proportionally spaced text and HMI is used to right justify non-proportionally spaced text. (If HMI is not supported, space fill is used to justify non-proportionally spaced text.)

If you answer *no* to this question, microspacing will always be used and printing may be slowed down considerably.

■ Underline



The screenshot shows a window titled 'Workbench Screen' with a menu bar containing 'Definition Name' and '5. Underline'. The menu is open, displaying a list of options:

- 1. Auto Underline On
- 2. Auto Underline Off
- 3. Auto Underline on Second Pass? N
- 4. Auto Double Underline On
- 5. Auto Double Underline Off
- 6. Double Underline Character (0 if None or if Automatic): 0
- 7. Move Down (and/or Shift to Alt Char Set) for Double Underline Character
- 8. Move Up (and/or Shift to Normal Char Set) for Double Underline Character

1. Auto Underline On

Enter the code that turns automatic underlining on. If you leave this blank, the Print program is usually able to underline anyway. Print's underlining is accomplished by performing a carriage return, spacing over, then using the underscore character. This process is generally slower than automatic underlining, but is more reliable and may look better or worse depending on your printer.

2. Auto Underline Off

Enter the code that turns auto underline off if you entered a code at item 1, Auto Underline On.

3. Auto Underline on Second Pass?

This flag is only used if the printer has its own automatic underlining feature, and the codes for it are entered at items 1 and 2, Auto Underline On and Off. It determines whether the underlining is done on the first pass as the text is being printed, or on a second pass by itself.

Enter y here to allow Print to underline all the characters on a second pass after they are printed.

Some printers will not underline the partial spaces that Print may use to right justify the line. If these micro-spaces do not underline properly, the underlining will be broken. Entering `y` will cause the Print program to do its underlining on a separate pass after the text has been printed, so that the underline characters will print continuously. A side effect of using this method is that the underlining may end a little before the correct position when printing in proportional spacing.

4. Auto Double Underline On

Enter the code that turns automatic double underlining on if your printer supports this feature. If you leave this blank, the Print program is usually able to double underline anyway. Print's double underlining is accomplished by using the Move Down and Move Up strings (see items 7 and 8, Move Down and Move Up, below) and printing the double underline character (see item 6, Double Underline Character Code, below). This process is generally slower than automatic double underlining, but is more reliable and may look better or worse depending on your printer.

5. Auto Double Underline Off

Enter the code to turn automatic double underlining off if your printer supports this feature.

6. Double Underline Character Code

If your printer has automatic double underlining capability, enter `0`. Otherwise, enter the code for the double underline character you want, usually ASCII `61` which is the equal sign.

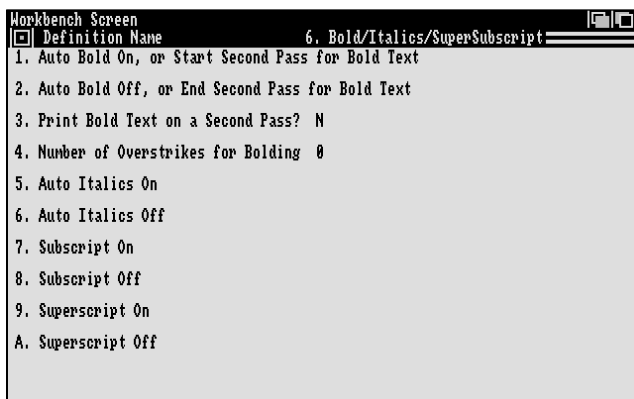
7. Move Down (and/or Shift to Alt Char Set) for Double Underline Character

If your printer does not have automatic double underlining capability, enter the code (VMI code with the number of units needed for the correct amount of spacing down) to move down to double underline. If you need to shift into an alternate character set to print the double underline character you entered at item 6, enter the shift into alternate character set code here as well (see *Shift Into Alternate Character Set* under *Pitch/Miscellaneous* in *Printdef Program* and special code <A> in *Appendix A: Special Codes*).

8. Move Up (and/or Shift to Alt Char Set) for Double Underline Character

If your printer does not have automatic double underlining capability, enter the code (VMI code with the number of units needed for the correct amount of spacing up) to move up after double underlining. If you had to shift into an alternate character set to print the double underline character, enter the code to shift back to normal character set here as well (see *Shift Back to Normal Character Set* under *Pitch/Miscellaneous* in *Printdef Program*).

■ Bold/Italics/Super-Subscript



The screenshot shows a window titled "Workbench Screen" with a menu bar containing "Definition Name" and "6. Bold/Italics/SuperSubscript". The main area contains a list of settings:

- 1. Auto Bold On, or Start Second Pass for Bold Text
- 2. Auto Bold Off, or End Second Pass for Bold Text
- 3. Print Bold Text on a Second Pass? N
- 4. Number of Overstrikes for Bolding 0
- 5. Auto Italics On
- 6. Auto Italics Off
- 7. Subscript On
- 8. Subscript Off
- 9. Superscript On
- A. Superscript Off

1. Auto Bold On, or Start Second Pass for Bold Text

If your printer has automatic bolding capability, enter the code here that turns it on. If you leave this item blank, the Print program can usually print bold text anyway. On HMI-controlled printers, this is usually done by triple striking the characters. On printers that are not controlled by HMI but which have backspace capability, this is done by backing up and overstriking each character to be bolded.

If bolding is too slow, you may want to bold on a second pass. If so, enter the code to start the second pass here, then answer *yes* to item 3, Print Bold Text on a Second Pass?

2. Auto Bold Off, or End Second Pass for Bold Text

If your printer has automatic bolding capability, enter the code here that turns it off. If you entered a code to Start Second Pass for Bold Text (item 1), enter the code to end the second pass here.

3. Print Bold Text on a Second Pass?

Enter *y* if your printer does not have auto bolding capability, or if you want to speed bolding by performing it on a second pass. Otherwise, enter *n*. (See also item 1, *Auto Bold On, or Start Second Pass for Bold Text*, above.)

4. Number of Overstrikes for Bolding?

If you did not enter codes for automatic bolding (see items 1 and 2, *Auto Bold On/Off*, or *Start/End Second Pass for Bold Text*) and answered *yes* to item 3, Print Bold Text on a Second Pass, enter the number of times to overstrike each character for bolding here. (You can vary the darkness of bolded text by entering a smaller or larger number.)

5. Auto Italics On

If your printer supports automatic italics, enter the code to turn it on here. The Print program can then print italics without requiring a font change.

On daisy wheel and some other letter quality printers, you may have to change a print wheel or thimble cup to obtain italics. If so, include the <F> special code (see *Appendix A: Special Codes*) in the string to cause the printer to wait for a “Go.”

Some printers are unable to print italics. Leaving this item blank will produce normal text instead of italicized text.

6. Auto Italics Off

If your printer supports automatic italics, enter the code to turn it off here.

If you entered an <F> at item 5, Auto Italics On, enter one here also so the printer will wait for a “Go.”

If your printer is not capable of printing italics, leave this item blank, as in item 5.

7. Subscript On

If your printer supports automatic subscripting, enter the code to turn it on here. If your printer does not support automatic subscripting, try inserting codes to move the carriage down. Then enter codes to move the carriage up at item 8, Subscript Off.

8. Subscript Off

If your printer supports automatic subscripting, enter the code to turn it off here. If your printer does not support automatic subscripting and you entered codes to move the carriage down at item 7, enter the codes to move it back up here.

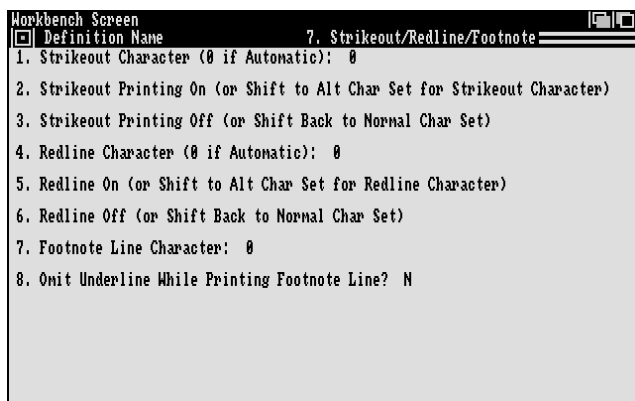
9. Superscript On

If your printer supports automatic superscripting, enter the code to turn it on here. If your printer does not support automatic superscripting, try inserting codes to move the carriage up. Then enter codes to move the carriage down at item A, Superscript Off.

A. Superscript Off

If your printer supports automatic superscripting, enter the code to turn it off here. If your printer does not support automatic superscripting and you entered codes to move the carriage up at item 9, enter the codes to move it back down here.

■ Strikeout/Redline/Footnote



The screenshot shows a terminal window titled "Workbench Screen" with a menu titled "7. Strikeout/Redline/Footnote". The menu items are as follows:

- 1. Strikeout Character (0 if Automatic): 0
- 2. Strikeout Printing On (or Shift to Alt Char Set for Strikeout Character)
- 3. Strikeout Printing Off (or Shift Back to Normal Char Set)
- 4. Redline Character (0 if Automatic): 0
- 5. Redline On (or Shift to Alt Char Set for Redline Character)
- 6. Redline Off (or Shift Back to Normal Char Set)
- 7. Footnote Line Character: 0
- 8. Onit Underline While Printing Footnote Line? N

1. Strikeout Character Code

Enter the code for the character you want printed over strikeout text. The most common is ASCII 45, which is the dash (-). Enter 0 if your printer supports automatic strikeout and supplies its own strikeout character.

2. Strikeout Printing On (or Shift to Alt Char Set for Strikeout Character)

If your printer supports automatic strikeout printing, enter the code to turn it on here.

If your printer does not support automatic strikeout, you can still achieve the same result by entering a strikeout character at item 1, Strikeout Character Code, above. If you need to shift to an alternate character set to access the strikeout character code, enter the Shift Into Alternate Character Set string here (see *Shift Into Alternate Character Set* under *Pitch/Miscellaneous* in *Printdef Program*). Depending on the strikeout character you choose, you may need to enter codes here to move the print head up or down.

Alternatively, you might choose to print in a different color or font.

3. Strikeout Printing Off (or Shift Back to Normal Char Set)

If your printer supports automatic strikeout printing, enter the code to turn it off here.

If your printer does not support automatic strikeout and you had to shift into an alternate character set to access the character you entered at item 2, enter the Shift Back to Normal Character Set string here (see *Shift Back to Normal Character Set* under *Pitch/Miscellaneous* in *Printdef Program*). If you had to move the print head up or down, or change to a different color or font, enter the codes to change it back here.

4. Redline Character Code

Enter **0** if your printer supports automatic redline and supplies its own redline character, or if you want the Print program to mark redlined text by printing a vertical bar in the left margin for each line containing redlined text. If you enter the code for a character here, it is printed in the left margin or it is used to redline on a second pass, depending on the strings entered for items 5 and 6, Redline On/Off.

Many people change to a different font for redlined text. For example, if you wanted redlined text to print in italics, you should enter **0** here. You would enter the special code <O><f> (where f is a font number) at item 5, Redline On to shift to the new font. Then you would enter <P> at item 6, Redline Off, to shift back at the end of the redlined text. (See *Appendix A: Special Codes* for more information on codes <O> and <P>.)

5. Redline On (or Shift to Alt Char Set for Redline Character)

If your printer supports automatic redlining, enter the code to turn it on here.

For other redlining techniques, or redlining on a second pass, enter the applicable codes here. (See item 1, *Redline Character Code*, above.) If you enter codes to redline on a second pass, it will function similarly to the strikeout feature (see items 1-3 above).

6. Redline Off (or Shift Back to Normal Char Set)

If your printer supports automatic redlining, enter the code to turn it off here.

If you have used other redlining techniques, or redlining on a second pass, enter the applicable codes here to end redlining. (See item 1, *Redline Character Code*, and item 2, *Redline On*, above.)

7. Footnote Line Character Code

Footnotes are separated from the normal text of a document by a short horizontal line. This footnote line is made up of a string of underlined characters. However, item 8 below allows you to omit the underline if you choose.

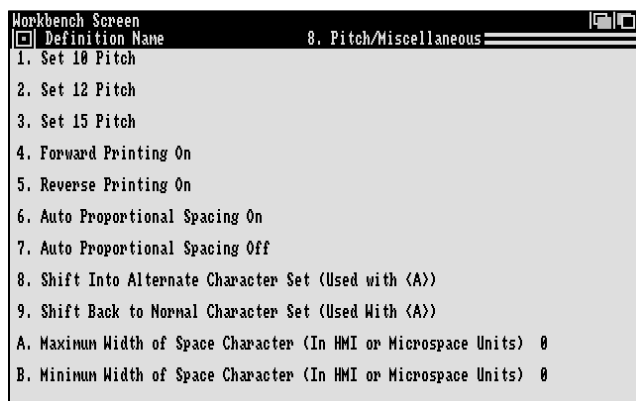
The most common character to use here is the space (32). Then when the footnote line prints out, only the single underline appears. In this case, you would enter **32** at this item, and answer *no* at item 8, Omit Underline While Printing Footnote Line?

However, if you wish to use a different character for the footnote line, enter the code for it here. For example, if you want a string of asterisks (*), you would enter **42** (the ASCII code for an asterisk) here. If you did not want the asterisks underlined, you would answer *yes* at item 8, *Omit Underline While Printing Footnote Line*?

8. Omit Underline While Printing Footnote Line?

Enter **y** if you do not want the character you chose for the footnote line underlined. Enter **n** if you do want the character underlined. (See item 7, *Footnote Line Character*, above for more information and examples.)

■ Pitch/Miscellaneous

A screenshot of a computer screen titled "Workbench Screen" with a sub-header "8. Pitch/Miscellaneous". The screen displays a list of menu items for configuring printer settings. The items are numbered 1 through 9, with sub-items A and B under item 9. The background is light gray, and the text is black. The window has a standard title bar with a close button on the right.

Definition Name	8. Pitch/Miscellaneous
1. Set 10 Pitch	
2. Set 12 Pitch	
3. Set 15 Pitch	
4. Forward Printing On	
5. Reverse Printing On	
6. Auto Proportional Spacing On	
7. Auto Proportional Spacing Off	
8. Shift Into Alternate Character Set (Used with <A>)	
9. Shift Back to Normal Character Set (Used With <A>)	
A. Maximum Width of Space Character (In HMI or Microspace Units)	0
B. Minimum Width of Space Character (In HMI or Microspace Units)	0

1. Set 10 Pitch

If your printer supports HMI or microspacing, leave this item blank. If your printer does not support HMI or microspacing, it may have codes to select specific pitch settings. In this case, enter the code to select 10 pitch here. Sometimes you need to include a code to set the printer back to a default mode before the Set 10 Pitch code.

2. Set 12 Pitch

If your printer supports HMI or microspacing, leave this item blank. If your printer does not support HMI or microspacing, it may have codes to select specific pitch settings. In this case, enter the code to select 12 pitch here. Sometimes you need to include a code to set the printer back to a default mode before the Set 12 Pitch code.

3. Set 15 Pitch

If your printer supports HMI or microspacing, leave this item blank. If your printer does not support HMI or microspacing, it may have codes to select specific pitch settings. In this case, enter the code to select 15 pitch here. Sometimes you need to include a code to set the printer back to a default mode before the Set 15 Pitch code.

4. Forward Printing On

If your printer does automatic bi-directional printing (or if your printer is a page printer), leave this item blank.

Some line printers are able to do bi-directional printing only if they are told when to print forward and when to print backward. If your printer fits this description, enter the code to print forward here.

5. Reverse Printing On

If your printer does automatic bi-directional printing (or if your printer is a page printer), leave this item blank.

Some line printers are able to do bi-directional printing only if they are told when to print forward and when to print backward. If your printer fits this description, enter the code to print backward here.

6. Auto Proportional Spacing On

Enter the codes you want sent to the printer whenever you select a proportionally spaced font (a pitch followed by an asterisk in WordPerfect), or whenever <M> is encountered in a Shift Into Font string. (See *Appendix A: Special Codes and Changing Fonts in Printdef Program*, and your printer manual for more information.)

7. Auto Proportional Spacing Off

Enter the codes you want sent to the printer to turn proportional spacing off after you have printed a proportionally spaced font (a pitch followed by an asterisk in WordPerfect), or whenever <N> is encountered in a Shift Out of Font string. (See *Appendix A: Special Codes, Changing Fonts in Printdef Program*, and your printer manual for more information.)

8. Shift Into Alternate Character Set

Many printers have more than one character set for a font. This allows access to more than the standard 255 characters per font. To access a character from an alternate character set, you must insert <A> in the character table definition. (See *Character Table Definitions in Printdef Program* for more information on how these are inserted.)

The codes you enter at this item and item 9, Shift Back to Normal Character Set, below, define the function of the <A> code. Whenever <A> is encountered in a character table string, the Print program performs a Shift Into Alternate Character Set (the codes you enter at this item), prints the next character, then performs a Shift Back to Normal Character Set (the codes at item 9, below).

So at this item, enter the codes necessary to shift into an alternate character set.

9. Shift Back to Normal Character Set

Enter the codes to shift back to the normal character set. (See item 8, *Shift Into Alternate Character Set*, above for more information.)

A. Maximum Width of Space Character

Right justification is almost always performed by expanding text on the line. On HMI and microspace printers, this is done by adding small amounts of space between the words until the inter-word spacing equals the Maximum width of Space Character (the value you enter here). Any remaining space is then added to the characters and spaces of the line.

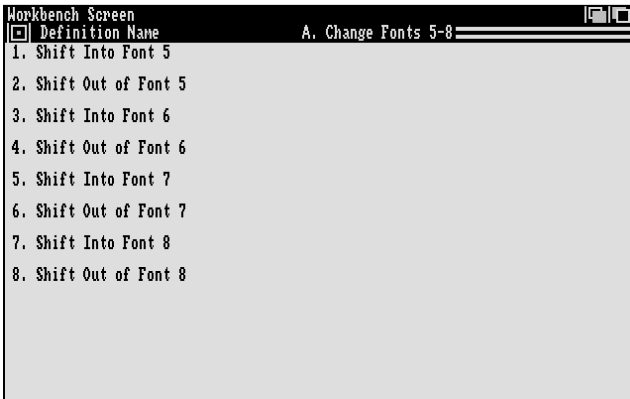
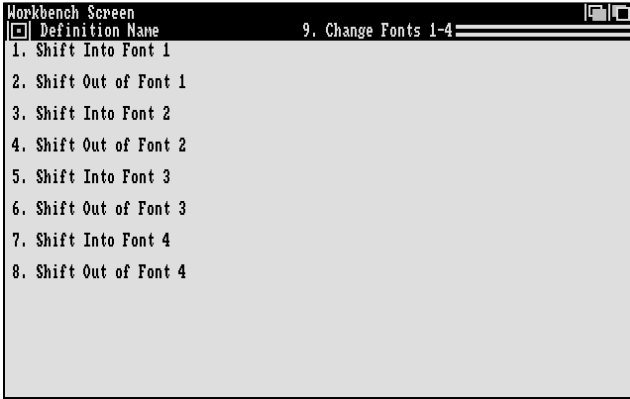
Enter a value equal to 150% of the width of the space character <32> in the largest font for this printer, in either HMI or microspace units (according to the type of spacing supported on your printer). This is critical for daisy wheel printers.

B. Minimum Width of Space Character

If text on a line must be compressed (HMI printers only), small amounts of space are removed from between the words until the inter-word spacing equals the Minimum Width of Space Character (the value you enter here). The letters and spaces are then squeezed together to finish off right justification.

Enter a value equal to 75% of the width of the space character <32> in the largest font for this printer, in HMI units. This is critical for daisy wheel printers.

■ Changing Fonts (1-4 and 5-8)



For each of the 8 fonts available for a given printer, you must enter a Shift Into Font string and a Shift Out of Font string.

Shift Into Font

Enter the codes to select your printer's fonts. If your printer has trouble lining up after a font change, you should place a <D> at the beginning of each string to help realign the print head. Include <F> if the font change requires the change of a print wheel or font cartridge. You may also want to include <M> or <N> if a font must be printed with proportional spacing on or off. If your printer uses microspacing to right justify non-proportionally spaced text, you may need to use <Q> to tell the Print program the width of the characters in a font. (See *Appendix A: Special Codes* for an explanation of the <D>, <F>, <M>, <N> and <Q> codes.)

In general, WordPerfect Corporation assigns fonts according to the following standard:

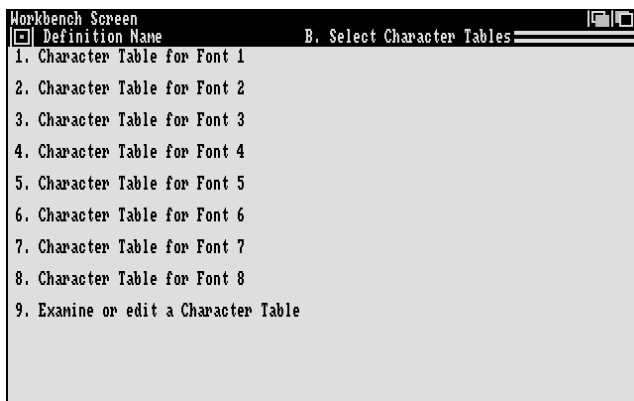
Font 1	Highest quality regardless of speed
Font 2	Non-letter quality
Font 3	Proportionally spaced
Font 4	Italic font
Font 5	Double-wide
Font 6	Double-high
Font 7	Compressed
Font 8	Highest speed regardless of quality

You may wish to follow this standard as you select fonts 1 through 8.

Shift Out of Font

These items can generally be left blank if you defined your Shift Into Font strings correctly. However, some printer features, such as expanded or compressed printing, may still need to be turned off. Enter the necessary codes to do so here.

■ Select Character Tables



Character Table for Font

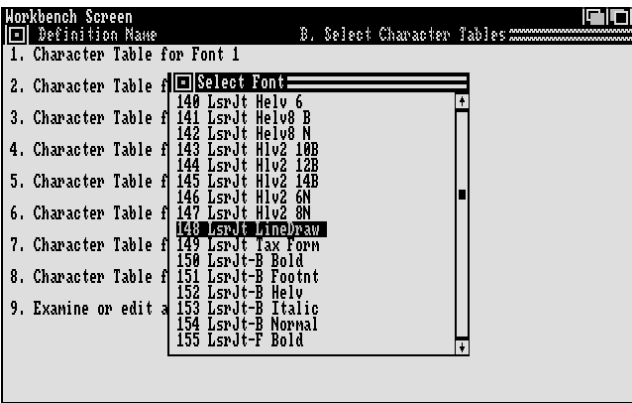
Each font must be associated with a character table. Items 1-8 identify which character table will be used with each font. To select a character table for each of items 1-8 on this screen,

- 1 Type the number next to the item.

Using the mouse:

Click under the item.

The Edit Font window appears with a list of character tables.



- 2 Use the Scroll gadget or **Page Down** (PgDn) and **Page Up** (PgUp) to locate the table you want to use.
- 3 Use the arrow keys to highlight the name of the character table, then press **Return**.

The character table now appears under the item.

Examine or Edit a Character Table

This item allows you to examine or edit the character tables just as if you had selected Character Table Definitions from the main menu. For more information on editing character tables, see *Character Table Definitions* in *Printdef Program*.

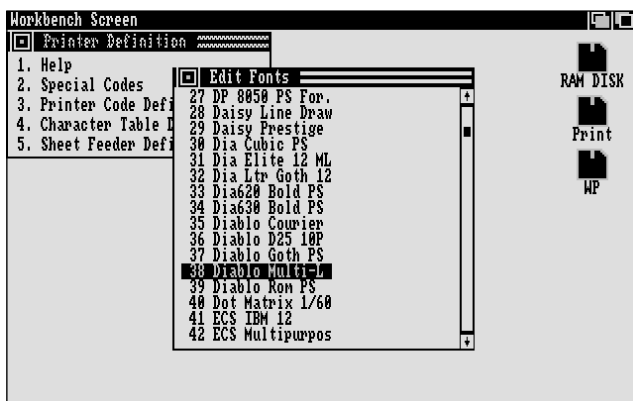
Using the mouse:

Double-click on the name of the character table.

■ Character Table Definitions

Character table definitions (or *character tables*) perform two important functions. First, they translate characters from the screen into characters or strings to be sent to the printer. Second, they contain character widths and relative positioning information for proportional spacing. Each font defined in a printer code definition must be associated with a character table.

When you choose Character Table Definitions from the main menu, a list of current definitions appears.



■ Types of Character Tables

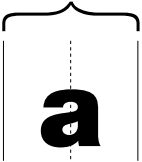
There are two kinds of character tables:

- **HMI with Adjust Factors**

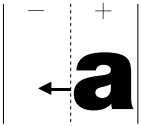
These character tables are for use with HMI-controlled printers. Each table contains character widths in units which are assumed to be the same as the HMI Unit entered in the printer code definitions which use it.

In addition, these tables contain adjust factors. Adjust factors are used to position characters relative to each other when printing proportionally-spaced text. The adjust factor can be either negative or positive (from -8 to +7), depending on the direction the character needs to be moved.

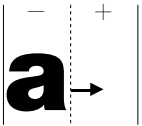
SPACE ALLOTTED TO "a"



centered



not centered, needs negative adjust factor



not centered, needs positive adjust factor

- **Microspace**

These tables are for use with microspace-controlled printers. Each table contains only character widths, but the units are specified when the table is created and may be different from the Microspace Unit entered in the printer definitions which use it.

You can tell the type of each existing character table by looking to see if it has adjust factors or not. To examine a character table,

- 1 Use the arrow keys, **Page Up** (PgUp), and **Page Down** (PgDn) to highlight the table you want, then press **Return**.

▲ ADJUST FACTORS

Diablo Multi-L															
Dsply	Prt	Wd,Ad		Dsply	Prt	Wd,Ad		Dsply	Prt	Wd,Ad		Dsply	Prt	Wd,Ad	
^G	0	32 12,+0		^A	1	32 12,+0		^B	2	32 12,+0		^C	3	32 12,+0	
^D	4	32 12,+0		^E	5	32 12,+0		^F	6	32 12,+0		^G	7	32 12,+0	
^H	8	32 12,+0		^I	9	32 12,+0		^J	10	32 12,+0		^K	11	32 12,+0	
^L	12	32 12,+0		^M	13	32 12,+0		^N	14	32 12,+0		^O	15	32 12,+0	
^P	16	32 12,+0		^Q	17	32 12,+0		^R	18	32 12,+0		^S	19	32 12,+0	
^T	20	32 12,+0		^U	21	32 12,+0		^V	22	32 12,+0		^W	23	32 12,+0	
^X	24	32 12,+0		^Y	25	32 12,+0		^Z	26	32 12,+0		^_	27	32 12,+0	
^	28	32 12,+0		^	29	32 12,+0		^	30	32 12,+0		^	31	32 12,+0	
32	32	10,+0		!	33	3 5,-2		"	34	34 9,-1		#	35	35 10,+0	
\$	36	36 10,+0		%	37	37 10,+0		&	38	38 10,+0		'	39	39 5,-3	
(	40	40 8,-1		)	41	41 8,-1		*	42	42 10,+0		+	43	43 10,+0	
44	44	6,-2		-	45	45 10,+0		.	46	46 6,-2		/	47	47 10,+0	
0	48	48 10,+0		1	49	49 10,+0		2	50	50 10,+0		3	51	51 10,+0	
4	52	52 10,+0		5	53	53 10,+0		6	54	54 10,+0		7	55	55 10,+0	
8	56	56 10,+0		9	57	57 10,+0		58	58	6,-2		59	59	6,-2	
<	60	32 9,+0		=	61	61 10,+0		>	62	32 9,+0		?	63	63 9,+0	
Decimal code ▲				▲ 0				▲				▲			
A. String sent to printer				{32}											
B. Character width				12											
C. Adjust factor				+0											

This table is for an HMI-controlled printer because it has adjust factors. (Exit the table by clicking on the Close gadget.)

■ Edit a Character Table Definition

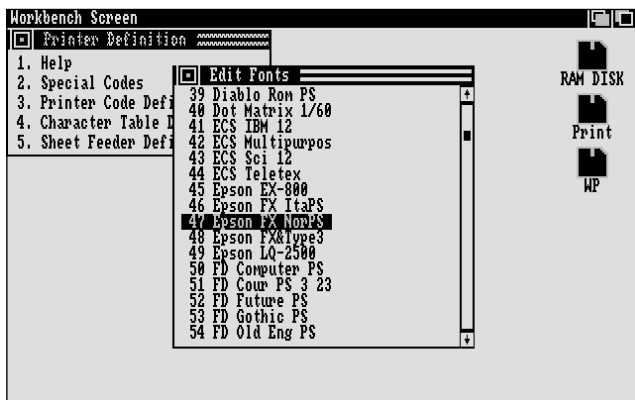
To begin editing one of the character table definitions in the list,

- 1 Use the arrow keys, **Page Up** (PgUp), and **Page Down** (PgDn) to highlight the character table you want, then press **Return**.

Using the mouse:

Double-click on the name of the table.

Double-click on the one you want to edit.



The codes of the table are listed in four columns on the screen. Each of these columns shows the character that displays on the screen, the decimal number of the character in the table, the string that is sent to the printer for that character, and the width of the character. (If it is an HMI character table, the adjust factors are listed to the right of the width for each character.) The character that displays and the decimal value of the character are for labeling purposes only. They cannot be edited. You can edit the string sent to the printer and the width (and adjust factor).

Editing is done using the three options at the bottom of the screen. The information for the character currently highlighted is displayed next to these three options. These three options are explained below.

String Sent to Printer

The code(s) you enter here is sent to the printer every time the indicated character is printed. This string should contain a space (<32>) if the character is non-printable. It may also be used to create characters which are not ordinarily supported in a printer's character set. For example, the Ç character could be created by printing a C, a backspace, and then a comma. In this case, you would enter **C<8>,,** (The Print program assumes that characters created this way are exactly one column wide.)

Width

The width entered here for each character is used only when you print proportionally spaced text. For HMI character tables, the units in which widths are specified are assumed to be the same as the HMI unit entered in the printer code definitions which use the character table (usually 1/120ths of an inch). You can specify the width units for microspace tables through the Width Units feature. Valid character widths range from 0 to 15 for HMI tables, or from 0 to 255 for microspace tables.

To specify the width units for microspace character tables,

1 Press **Width Units** (Right Amiga-W).

A requester appears with the current units.

2 Enter the new units.

Adjust Factor

This option is only used when you edit HMI character tables. The printer test file PSHMI.TST contains detailed instructions explaining how adjust factors may be determined if you are changing or creating a character table. (See *PSHMI.TST* in *Printer Test Files* for more information.) Valid adjust factors range from -8 to +7. The units of adjust factors are the same as those for the character widths.

Using the mouse:

Choose **Width Units** on the Edit menu.

Type the units and click on **Accept**.

■ Edit a Character

To edit a character in the table,

- 1 Use the arrow keys to highlight it in the columns of the upper part of the screen.

If you don't find the character you are looking for, use Page Down (PgDn) and Page Up (PgUp) or the Scroll gadget to display another screen of characters.

Once the correct character is highlighted,

- 2 Enter the letter (A-C) for the option you want to change.

The current code, width or adjust factor is highlighted.

- 3 Type the new code, width or adjust factor and press **Return** to accept it.
- 4 Repeat steps 2 and 3 for each of items A-C that you want to change.

■ Exit the Character Table Definition Feature

To exit a character table,

- 1 Press **Exit** (F7).

A requester appears asking whether you want to save the changes you have made.

- 2 Type **y** to save the changes or **n** to not save them.

You are returned to the Character Table Definitions list. You can then choose another definition to edit, or exit back to the main menu. To exit,

- 3 Press **Exit** (F7).

Using the mouse:

Click on the character.

Click on the code next to the option you want to change.

Click on the Close gadget.

*Click on **Yes** or **No**.*

Click on the Close gadget.

■ Tips on Creating and Editing Character Table Definitions

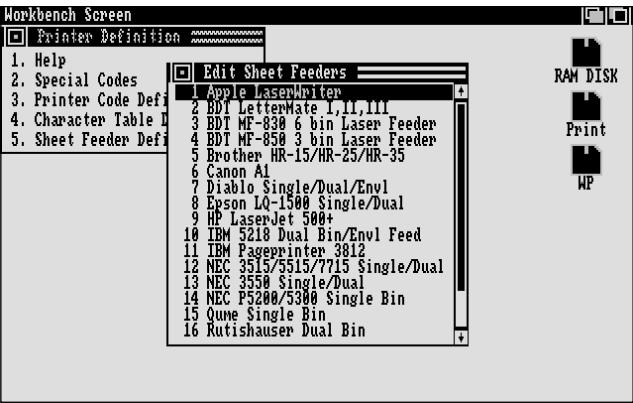
- Remove any characters which are not in your printer's character set. Enter the code for a space (<32>) as the String Sent to Printer, enter the width for the space at Character Width, and enter 0 for the Adjust Factor if you are editing or creating an HMI character table.
- Make sure that the code sent to the printer matches the code recognized by your printer for each printable character.
- If your printer will print characters which your monitor cannot display, try to assign them to display characters which look similar. This helps improve the readability of documents which use those characters.
- If your printer has an alternate character set, you must use the <A> special code to access these characters. (See *Shift Into Alternate Character Set* under *Pitch/Miscellaneous* in the *Printer Code Definitions* section of *Printdef Program*, and *Appendix A: Special Codes* for more information.)
- Use the printer test file FONT.TST (see *Printer Test Files*) to test how the characters in each character table definition are mapped.

■ Sheet Feeder Definitions

Sheet feeder definitions allow the Print program to control the sheet feeder attached to your printer.

The strings entered in a sheet feeder definition are only sent to the printer if you indicate that a sheet feeder is attached to your printer during the select printers process. (See *Selecting Printers* in *Print Program*.)

When you choose Sheet Feeder Definitions from the main menu, a list of current definitions appears.



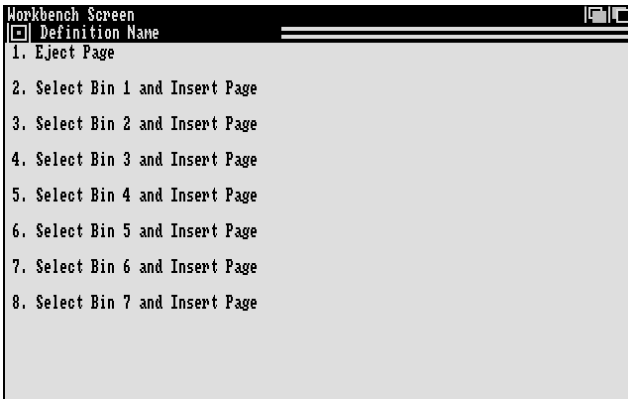
You can create, rename or delete a sheet feeder definition by using the Edit menu options. (See the *Edit Menu Options* subheading under *Getting Started with Printdef* in *Printdef Program* for instructions.) This section describes how to edit a sheet feeder definition.

*NOTE: Many sheet feeders can be defined as “continuous” feed printers. If you are having problems with an existing sheet feeder definition, try defining it has a continuous form printer (see *Selecting Printers* in *Print Program*) before attempting to edit the definition.*

To begin editing one of the definitions on the list,

- 1 Use the arrow keys, **Page Up** (PgUp), and **Page Down** (PgDn) to highlight the definition you want, then press **Return**.

The following screen appears:



The codes requested in this screen represent the entire sheet feeder definition. On the line under each item on the screen you should enter the requested codes if applicable for your sheet feeder. To access any of the items,

- 1 Type the number of the item.

The line (or answer area) is highlighted. You can then type the string of codes and press Return or Exit (F7) to exit the item. You can also exit by pressing an arrow key. This method is especially useful for moving to the next item in one step.

When you are finished, perform the following step to exit:

- 1 Press **Exit** (F7), then type **y** or **n** to save or not save the file.

Using the mouse:

Double-click on the name of the definition.

Click on the line below the item.

*Click on the Close gadget, then click on **Yes** or **No**.*

You are returned to the sheet feeder definitions list, where you may then choose another definition to edit, or exit by clicking on the Close gadget or pressing Exit.

Instructions for how to respond to each item are given below.

1. Eject Page

Enter the code to eject a page with your sheet feeder. This string is sent to the printer at the end of every printed page before the next page is inserted.

2. – 8. Select Bin and Insert Page

Enter the code to select that bin and insert the page. This string is sent to the printer before each page is printed. The selection of the bin occurs when you place a Sheet Feeder Bin Number code ([Bin #:]) in the file to be printed. (Documents created with WordPerfect Library programs use only bin 1.)



■ **Printer Test Files**

Several test files are provided on the Print diskette to help you test your printer definitions. Each one is explained below.

■ **PRINTER.TST**

This file tests all features that require special printer functions (footnotes, headers, super/subscripts, font changes, etc.).

To use the test,

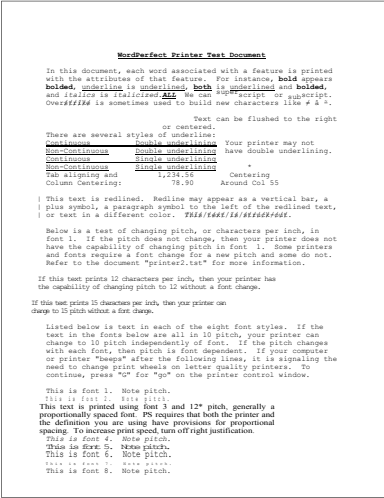
- 1 Print the file from the Printer Control menu.

If you hear a *beep* from a letter-quality printer during this test, you are probably being prompted for a font change. Change the print wheel, thimble, or font cartridge, then select Send Printer a Go (G) from the Printer Control menu to resume printing. Font changes on most dot-matrix printers are automatic.

Using the mouse:

Click on **Send Printer a Go**.

For a printer that supports every tested feature, the printout should look like this (very few printers support every feature):



The fonts shown on your copy may be different, but the text should be the same. The redline and strikethrough characters may also be different on your copy.

If the features demonstrated in this test do not print correctly, either the printer definition is not set up to perform the feature, or your printer is incapable of producing it. If it is the printer definition, you may be able to make the necessary modifications using the Printdef program. (See *Printdef Program*.) You may wish to call WordPerfect Customer Support (the number is listed at the beginning of this manual) for assistance.

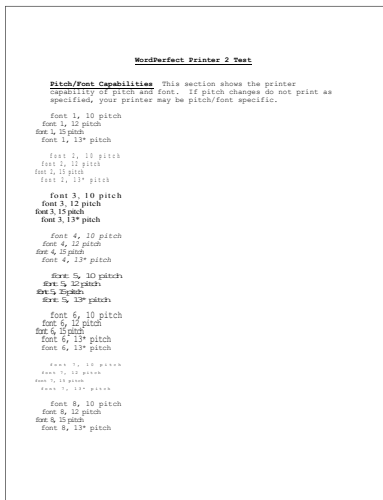
■ PRINTER2.TST

This test prints all 8 fonts in four different pitches (10, 12, 15 and 13*). Use it to determine whether your printer is pitch/font specific (meaning that pitch and font cannot be set independently) and the best pitch to use for a particular font.

To use the test,

- 1 Print the file from the Printer Control window.

It should look something like this:



■ FONT.TST

This file shows the current character table definition for a specific font. You can see the names and numbers of all defined fonts by selecting Display Printers and Fonts (2) on the Printer Control menu (see *Print Program*) and change the definition by using the Printdef program (see *Character Table Definitions in Printdef Program*).

To use this test,

- 1** Retrieve FONT.TST in WordPerfect.
- 2** Enter a Font Change code ([Font Change:]) at the top of the FONT.TST file for the font you want to test (1 is the default).

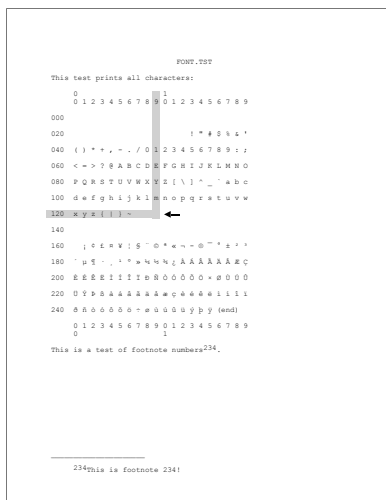
If you don't know how to enter the code, see *Font* in the Reference section of the WordPerfect user's manual.

- 3** Print the document.

Remember to change the print wheel, thimble, or font cartridge if necessary to match the font number.

If you do not change the font code in WordPerfect, this test will always print using Font 1, which is the default. If you do not have WordPerfect, but want to use the test, you must substitute different strings at the Shift Into Font 1 item in the Printdef program in order to test different fonts (see the *Changing Fonts* subheading under *Printer Code Definitions* in *Printdef Program*). By substituting the strings for different fonts at Shift Into Font 1, you change the font which is used as the default.

The printed copy should look like this (your font may be different):



As you can see from this printout, either the printer was incapable of printing character number 129, or it was assigned to be a space in the character table definition. To check it, use the Character Table Definition option in the Printdef program.

Insert the Change Font code (or change the Shift Into Font 1 string if you are not using WordPerfect) and print this file for each font you want to test. Then if necessary, use the Printdef program to edit the character tables. For more information, see *Printdef Program*.

You will have to reprint this document many times to test your changes.

Use this file to test character widths in a proportionally-spaced font that you are creating or editing for use on a microspace-controlled printer. This test can also be extremely useful if your printer manual does not provide character widths.

To use this test,

1 Print the file.

It should look something like this:

[illegible]

For each row of characters, measure from the left margin to the end of the row. Then use this formula to calculate the width of each character:

$$\frac{\text{inches}}{\text{number of characters} \times \text{unit of measure}} = \text{Character Width}$$

The number of characters is 30, and the unit of measure is the unit specified in the character table definition (see *Character Table Definitions* in *Printdef Program*).

■ Appendix A: Special Codes

These codes can be used within the Printdef program. They provide a means of getting around printer inconsistencies and limitations. They also provide access to features available only from inside a WordPerfect product. The codes have the following meanings:

<A> **Shift into alternate character set for the next character, then shift back.**

<A> is a method of abbreviating the strings used to shift into and out of an alternate character set. It is primarily used in the character table definition. <A>c means: *shift into alternate character set, print the c character, then shift back to the normal character set.*

**** **Send the current line spacing code to the printer.**

Use this to restore line spacing if you had to change it to perform a special task. For example, superscripting can be performed by changing line spacing to 20 lines per inch, doing a reverse line feed, then printing the character. After moving back to the original line, the superscript off string must include a to restore the original line spacing value.

<C> **Send the current pitch codes to the printer.**

This code is similar to .

<D> Perform a carriage return, then space forward to the current column.

This code allows overstriking, or realigns the print position after a font/pitch change. You might also use it to create compound characters. For example, to print a Ç, you would normally place C<8>, in the character table definition. However, if your printer cannot backspace, use C<D>, instead.

<E> Repeat these codes on every line.

Any strings which contain <E> will be sent to the printer at the start of every line of printed text if that feature is in effect.

<F> Beep, and make printing wait for a “Go.”

This code is used for changing print wheels on daisy-wheel printers. Insert the code in the Shift Into Font string. (See *Changing Fonts* in *Printdef Program*.)

<G> Replace this code with an HMI value in decimal form.

Insert this code in the Set HMI string (see *Microspacing and HMI* in *Printdef Program*) if your printer requires HMI settings in decimal form. For example, for Diablo printers, enter <27><31><G>. An HMI value of 12 is sent as <12> if <G> is used in the Set HMI string. The value is calculated internally.

<H> Replace this code with an HMI value in ASCII form.

Insert this code in the Set HMI string (see *Microspacing and HMI in Printdef Program*) if your printer requires HMI settings in ASCII form. An HMI value of 12 is sent as 12 if <H> is included in the Set HMI string. The value is calculated internally.

<I> Change bolding from triple overstrike to double overstrike on HMI-controlled printers.

If bolding is too dark, you can include <I> in the Initialize Printer Before Print Job string (see *Printer Initialization in Printdef Program*). Using this code produces shadow printing on some printers.

<J> Identifies Tandy DWP IIB type printers.

Place this code in the Initialize Printer Before Print Job string (see *Printer Initialization in Printdef Program*) if your printer is of this type. This code assures that the correct printer initialization code is sent.

<K> Replace this code with a VMI value in decimal form.

Insert this code in the Set VMI string (see *Line Spacing and VMI in Printdef Program*) if your printer requires VMI settings in decimal form. A VMI value of 12 is sent as <12> if <K> is used in the Set VMI string. The value is calculated internally.

<L>

Replace this code with a VMI value in ASCII form.

Insert this code in the Set VMI string (see *Line Spacing and VMI* in *Printdef Program*) if your printer requires VMI settings in ASCII form. A VMI value of 12 is sent as 12 if <L> is included in the Set VMI string. The value is calculated internally.

<M>

Turn on proportional spacing.

Place <M> in the Shift Into Font string (see *Changing Fonts* in *Printdef Program*) if you want to define a font which can only be used in proportional spacing mode.

<N>

Turn off proportional spacing.

Place <N> in the Shift Into Font string (see *Changing Fonts* in *Printdef Program*) if you want to define a font which can only be used in non-proportional spacing mode.

<O>

Switch to a new font.

This code saves the current font number and switches to a new font. The code must be followed by a decimal code equal to the font number (1=<001>, 2=<002>, etc.).

For some printers, the best way to bold is to select a bold font. Laser printers and typesetters often fall into this category. Place <O><8> in the Auto Bold On string (see *Bold/Italics/Superscript* in *Printdef Program*) to save the current font and to select font 8 whenever bold text is printed. Warning: Be sure to place <P> in the Auto Bold Off string or the original font will not be restored after the bold text is printed.

The <O> command will save up to twenty levels of previous fonts. Each time <O> is invoked, the Shift Into Font string is sent for the new font, and the new font's character table is loaded and used. The only exception to this rule is when <O> is used inside a character table. In this case, the Shift Into Font string is sent, but the new character table is not used. Use <U>, <V>, or <W> if access to one character table is required from inside another.

<P> Return to the previous font.

Use this code to return to whichever font was active before the last <O> command.

<Q> Define character width for a fixed-pitch font.

Include this code in the Shift Into Font string for a printer that uses microspacing. This code must be followed by a decimal code equal to ten times the pitch value (10 pitch = <100>, 12 pitch = <120>, etc.).

The HP LaserJet-B printer definition uses microspacing to perform right justification. In order to right-justify the non-proportional Courier font at variable pitches, the Print program must know the width of those characters. Since Courier is a 10-pitch font, <Q><100> has been entered in the Shift Into Font string. (NOTE: This will only work properly if the character width works out to be an integral number of microspacing units.)

<R>

Not Used.

<S>

Replace this code with a microspacing value in decimal form.

Insert this code in the Perform Microspace Command string (see *Microspacing and HMI in Printdef Program*) if your printer requires microspace settings in decimal form. A microspace value of 12 is sent as <12> if <S> is used in the Perform Microspace Command string. The value is calculated internally.

<T>

Replace this code with a microspacing value in ASCII form.

Insert this code in the Perform Microspace Command string (see *Microspacing and HMI in Printdef Program*) if your printer requires microspace settings in ASCII form. A microspace value of 12 is sent as 12 if <T> is used in the Perform Microspace Command string. The value is calculated internally.

<U>

Replace a character with the string assigned to it in another font.

Use this code in the character table definition (see *Character Table Definitions in Printdef Program*) with the following syntax: <U><*f*><*c*>, where <*f*><*c*> are two decimal codes. This string sends the mapping of character *c* from font number *f*. This string is useful for sharing complex character mappings between fonts in order to save font string storage space.

For example, suppose that the character table assigned to font 8 contains a complex string which prints a new symbol. Suppose also that this string is assigned to the character code <255>. This complex string is sent to the printer whenever the sequence <U><8><255> is encountered in any of the character tables used by the other seven fonts in that printer definition.

Note that <U> causes the Shift Into Font and Shift Out of Font strings (see *Changing Fonts* in *Printdef Program*) to be sent to the printer.

<V>

Replace a character with the string assigned to it in the same font.

Use this code in the character table definition (see *Character Table Definitions* in *Printdef Program*) with the following syntax: <V><c>, where <c> is a decimal code of the character to replace. This code does the same thing as <U>, but assumes the current font.

You can save space inside character table definitions through careful use of <V>. For example, the string assigned to the code <255> is sent to the printer whenever <V><255> is encountered in that character table. In short, <V> allows characters to be defined in terms of other characters.

<W>

Replace a character with the string assigned to the current character in another font.

Use this code in the character table definition (see *Character Table Definitions* in *Printdef Program*) with the following syntax: <W><f>, where <f> is a decimal code equal to the font number. This string does the same thing as <U>, but assumes the character number is the same as the character number that is being mapped.

Note that <W> causes the Shift Into Font and Shift Out of Font strings (see *Changing Fonts* in *Printdef Program*) to be sent to the printer.

<X>

Download a file.

Any filename bracketed within <X>'s will be sent to the printer, for example, <X>LASERWRT.PS<X>. The file will be searched for in the current directory or at the specified path.

This code is most useful in the Initialize Printer Before Print Job string (see *Initialize Printer* in *Printdef Program*), but may be used in font change strings or any other string in the printer code definition.

<Y>

Use the Amiga Preferences printer driver.

Use this code only in the Initialize Printer Before Print Job string (see *Initialize Printer* in *Printdef Program*) for the Amiga printer. This code indicates that the printer definition to be used is the one selected in Preferences.



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